

**Appeal No. 2017-1027**

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**UNITED STATES COURT OF APPEALS FOR THE FEDERAL  
CIRCUIT**

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REYNOLDS PRESTO PRODUCTS INC.,

*Appellant,*

v.

INTERNATIONAL TRADE COMMISSION,

*Appellee.*

INTEPLAST GROUP, LTD., MINIGRIP, LLC

*Intervenors.*

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Appeal from the United States International Trade Commission  
in Investigation No. 337-TA-962

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**NON-CONFIDENTIAL BRIEF OF APPELLANT  
REYNOLDS PRESTO PRODUCTS INC.**

---

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January 18, 2017

## FORM 9. Certificate of Interest

Form 9  
Rev. 03/16

## UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

Reynolds Presto Products Inc. v. International Trade Commission

Case No. 17-1027

## CERTIFICATE OF INTEREST

Counsel for the:

☐ (petitioner) ☒ (appellant) ☐ (respondent) ☐ (appellee) ☐ (amicus) ☐ (name of party)

Reynolds Presto Products Inc.

certifies the following (use "None" if applicable; use extra sheets if necessary):

| 1. Full Name of Party Represented by me | 2. Name of Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is: | 3. Parent corporations and publicly held companies that own 10 % or more of stock in the party |
|---|---|--|
| Reynolds Presto Products Inc.           | Reynolds Presto Products Inc.   | Ren Pac Holdings Inc.  |
|   |   | Reynolds Group Holdings Inc.   |
|   |   | Beverage Packaging Holdings V.S.A.   |
|   |   | Beverage Packaging Holdings I.S.A.   |
|   |   | Reynolds Group Holdings Limited  |
|   |   | Packaging Finance Limited  |
|   |   | See Attachment   |

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (**and who have not or will not enter an appearance in this case**) are:

See Attachment

1/18/2017

Date

/s/ Patrick J. McCarthy

Signature of counsel

Please Note: All questions must be answered

Patrick J. McCarthy

Printed name of counsel

cc: \_\_\_\_\_

Reset Fields

**ATTACHMENT – Page 1 of 1**

PARENT CORPORATIONS FOR CERTIFICATE OF INTEREST

Parent corporations and publicly held companies that own 10% or more of the stock in the party also include:

Reynolds Consumer Products Holdings LLC; Packaging Holdings Limited

LAW FIRMS FOR CERTIFICATE OF INTEREST:

The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (and who have not or will not enter an appearance in this case) are:

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## TABLE OF CONTENTS

|                                     |     |
|-------------------------------------|-----|
| CERTIFICATE OF INTEREST.....        | i   |
| TABLE OF CONTENTS .....             | iii |
| STATEMENT OF RELATED CASES.....     | 1   |
| JURISDICTIONAL STATEMENT.....       | 1   |
| STATEMENT OF THE ISSUES .....       | 1   |
| STATEMENT OF THE CASE .....         | 4   |
| I.    PROCEDURAL HISTORY .....      | 4   |
| II.   FACTS AND TESTIMONY .....     | 5   |
| A.   The '443 Patent.....           | 5   |
| 1.   The Technology .....           | 5   |
| 2.   The Claim .....                | 14  |
| 3.   The Accused Products.....      | 15  |
| B.   The '002 Patent.....           | 20  |
| 1.   The Technology .....           | 20  |
| 2.   The Claim .....                | 23  |
| 3.   The Prosecution History .....  | 25  |
| a.   Porchia .....                  | 25  |
| b.   The '701 Patent.....           | 29  |
| 4.   The Accused Product .....      | 31  |
| III.  THE COMMISSION DECISION ..... | 33  |
| SUMMARY OF THE ARGUMENT .....       | 33  |



|   |    |
|---|----|
| ARGUMENT .....  | 36 |
| I. STANDARD OF REVIEW .....   | 36 |
| II. RESPONDENTS INFRINGE THE '443 PATENT .....  | 38 |
| A. Proper Construction Of “Spreader” .....  | 39 |
| B. The Accused Slider Products Include A “Spreader” .....   | 44 |
| C. The Accused Product Still Infringes Even Under The<br>Commission’s “Spreader” Construction .....   | 53 |
| III. RESPONDENTS VIOLATED THE TARIFF ACT IN<br>RELATION TO THE '002 PATENT .....  | 59 |
| A. The Commission Erred In Equating “Hook Length”<br>With The Length Of The Slider And Importing<br>Extraneous Limitations Into The Claim .....                 | 59 |
| 1. The Claim Language Itself Clearly Supports<br>Presto’s Construction, While The Commission’s<br>Construction Imports Multiple Additional<br>Limitations ..... | 60 |
| 2. The Specification Does Not Support The<br>Commission’s Additional Limitations Either .....   | 62 |
| 3. The Commission’s Additional Limitations Are<br>Not Supported By The Ambiguous And<br>Confusing Prosecution History .....                                     | 65 |
| B. The Accused Slider Infringes Claim 1 .....   | 74 |
| 1. The Accused Slider Literally Meets The<br>Engagement Surface Limitation .....  | 74 |
| 2. The Accused Slider Meets The Deflection<br>Surface Limitation Under The Doctrine Of<br>Equivalents .....   | 76 |
| a. Respondents Presented No Evidence On<br>Equivalence .....  | 77 |

|                  |  |    |
|------------------|--|----|
| b.               | Prosecution History Estoppel Does Not Apply To The “Top Wall” Limitation .....                 | 79 |
| C.               | The Presto Slider Satisfies The Technical Prong Of The Domestic Industry Requirement .....     | 84 |
| 1.               | Presto’s Domestic Product Met The “About 40 to 50 Degrees” Limitation .....                    | 85 |
| a.               | The Commission Erred In Excluding A 29 Degree Deflection Surface From “About 40 Degrees” ..... | 86 |
| b.               | Presto Did Not Surrender Any Ranges Outside Of “About 40 To 50 Degrees” ...                    | 88 |
| 2.               | Presto’s Domestic Industry Product Satisfies The Hook Length Limitation .....                  | 90 |
| CONCLUSION ..... |  | 91 |

ADDENDUM

CERTIFICATE OF SERVICE

CERTIFICATE OF COMPLIANCE

CONFIDENTIAL MATERIAL OMITTED

The public version of the Initial Determination is used in the attached Addendum. The confidential version contains confidential business information subject to the Protective Order entered July 20, 2015.

## TABLE OF AUTHORITIES

|   | <b>Page(s)</b> |
|---|----------------|
| <b>Cases</b>  |                |
| <i>Alloc, Inc. v. Int’l Trade Comm’n</i> ,<br>342 F.3d 1361 (Fed. Cir. 2003) .....                      | 84             |
| <i>Bose Corp. v. JBL, Inc.</i> ,<br>274 F.3d 1354 (Fed. Cir. 2001) .....                                | 83             |
| <i>Cohesive Tech., Inc. v. Water Corp.</i> ,<br>543 F.3d 1351 (Fed. Cir. 2008) .....                    | 85, 86, 87, 89 |
| <i>Festo Corp. v. Shoketu Kinzoku Kogyo Kabushiki Co., Ltd.</i> ,<br>535 U.S. 722 (2002) .....          | 79             |
| <i>Gemstar-TV Guide Int’l, Inc. v. ITC</i> ,<br>383 F.3d 1352 (Fed. Cir. 2004) .....                    | 36             |
| <i>Grober v. Mako Prods.</i> ,<br>686 F.3d 1335 (Fed. Cir. 2012) .....                                  | 65             |
| <i>Interactive Gift Express, Inc. v. Compuserve Inc.</i> ,<br>256 F.3d 1323 (Fed. Cir. 2001) .....      | 59             |
| <i>Kinik Co. v. ITC</i> ,<br>362 F.3d 1359 (Fed. Cir. 2004) .....                                       | 36             |
| <i>Loral Fairchild Corp. v. Sony Corp.</i> ,<br>181 F.3d 1313 (Fed. Cir. 1999) .....                    | 82             |
| <i>Omega Eng’g, Inc. v. Raytek Corp.</i> ,<br>334 F.3d 1314 (Fed. Cir. 2003) .....                      | 79, 80, 81     |
| <i>Ortho–McNeil Pharm., Inc. v. Caraco Pharm. Labs., Ltd.</i> ,<br>476 F.3d 1321 (Fed. Cir. 2007) ..... | 86             |
| <i>Pall Corp. v. Micron Separations, Inc.</i> ,<br>66 F.3d 1211 (Fed. Cir. 1995) .....                  | 86             |

|   |               |
|---|---------------|
| <i>Phillips v. AWH Corp.</i> ,<br>415 F.3d 1303 (Fed. Cir. 2005) ( <i>en banc</i> ) ..... | 38, 64        |
| <i>Teva Pharm. USA, Inc. v. Sandoz, Inc.</i> ,<br>135 S. Ct. 831 (2015) .....             | 35            |
| <i>Universal Camera Corp. v. N.L.R.B.</i> ,<br>340 U.S. 474 (1951) .....                  | 36            |
| <i>Vitronics Corp. v. Conceptronic</i> ,<br>90 F.3d 1576 (Fed. Cir. 1996) .....           | <i>passim</i> |
| <i>Whitmore v. Dept. of Labor</i> ,<br>680 F.3d 1353 (Fed. Cir. 2012) .....               | 37, 56, 57    |

## **Statutes**

|                              |    |
|------------------------------|----|
| 5 U.S.C. § 706(2)(E) .....   | 36 |
| 19 U.S.C. § 1337(a)(2) ..... | 4  |
| 35 U.S.C. § 102(b) .....     | 5  |
| 35 U.S.C. § 103(a) .....     | 65 |

## **Other Authorities**

|                                |    |
|--------------------------------|----|
| 19 C.F.R. § 210.42(h)(2) ..... | 35 |
|--------------------------------|----|

### **STATEMENT OF RELATED CASES**

There are no related cases pending in any court.

### **JURISDICTIONAL STATEMENT**

The U.S. International Trade Commission (the “Commission”) had jurisdiction pursuant to 19 U.S.C. § 1337(a)(1)(B). The Commission confirmed the administrative law judge’s initial determination of no violation in a final determination on August 19, 2016. (Appx1-4.) A Petition for Review was timely filed on October 7, 2016. This Court has jurisdiction pursuant to 28 U.S.C. § 1295(a)(6).

### **STATEMENT OF THE ISSUES**

1. U.S. Patent No. 7,311,443 (“the ’443 patent”) is directed to a slider for a recloseable storage bag having a “spreader depending from the top wall, the spreader having a channel therethrough.” Both the only embodiment of the ’443 patent and the accused product have spreaders having components that sometimes open the bag, and in other circumstances close the bag. Did the Commission err in construing the term “spreader,” and in finding no infringement of the accused product, by summarily

excluding from the term “spreader” any portion of the slider that sometimes functions to close the bag?

2. U.S. Patent No. 6,524,002 (“the ’002 patent”) is directed to a slider for a recloseable storage bag having a “hook construction” to engage the bag just below the recloseable zipper track to prevent the slider from being pulled off the bag. In the only embodiment disclosed in the ’002 patent, the hook construction is less than the length of the entire slider, and the ’002 patent makes no mention anywhere in the specification regarding any need for continuity (or discontinuity) of the hook construction. The accused product has multiple hook constructions, or alternatively, a discontinuous hook construction. Did the Commission err in its claim construction and in finding no infringement when it narrowly construed “hook construction” to mean a single, continuous structure extending the length of the entire slider based solely on a passage in the prosecution history that every witness, and the ALJ, considered at trial to be ambiguous?

3. The ’002 patent also requires a deflection surface at the bottom edge of the slider angled at “about 40 to 50 degrees” to deflect the sides of the slider apart to allow the slider to be mounted

onto the recloseable zipper track. The '002 patent requires the deflection surface to be angled to the “top wall.” The accused product has a 45 degree angle to the rear wall, indisputably for mounting the slider, albeit at a different initial orientation. Did the Commission err in finding the rear wall orientation of the accused product was not an equivalent to the top wall orientation of the claim when the record was devoid of evidence the applicant clearly and unmistakably disavowed an orientation to the rear wall?

4. The domestic industry product includes a deflection angle of 29 degrees. The '002 patent specification states that an operable deflection surface could be “about 30 to 60 degrees.” In construing the claim language “about 40 to 50 degrees,” the Commission failed to address the purpose the limitation plays in the claimed invention, or undisputed evidence of the operability of the 29 degree angle. Did the Commission therefore err when it arbitrarily excluded 29 degrees from “about 40 degrees” based solely on the mathematical (but irrelevant) fact that 29 is “only about two-thirds” of 40, and therefore determined that Presto did not meet the technical domestic industry requirement of 19 U.S.C. § 1337(a)(2) by not practicing the claimed invention?

## **STATEMENT OF THE CASE**

### **I. Procedural History**

The Commission instituted investigation number 337-TA-962 into whether Respondents, Inteplast Group, Ltd. and Minigrip LLC (“Respondents”) violated Section 1337 of the Tariff Act of 1930 by importation of recloseable slider bags that infringed Petitioner, Reynolds Presto Products Inc.’s (“Presto’s”) U.S. Patent Nos. 7,311,443; 6,524,002; and 6,427,421 (“the ’421 patent”). (Appx10.) The Administrative Law Judge (“ALJ”) granted summary judgment to Presto on the economic prong of domestic industry, and the Commission did not review that determination. (*Id.*)

An evidentiary hearing was held on the issues of infringement, validity, and the technical prong of domestic industry. On June 20, 2016, the ALJ issued his Initial Determination construing relevant claim language of the patents-in-suit and finding: (a) the accused products do not infringe any of the patents-in-suit, either literally or under the doctrine of equivalents; (b) the patents-in-suit are not invalid; (c) the technical prong of the domestic industry requirement was met for the ’443 patent; and (d) the domestic industry



requirement was not met for the '002 and '421 patents. (Appx98.) Accordingly, no violation was found.

On August 19, 2016, the Commission adopted the initial determination, except (1) it took no position on invalidity of claim 1 of the '443 patent under 35 U.S.C. § 102(b), and (2) supplemented the initial determination of no infringement of the '421 patent under the doctrine of equivalents. (Appx1-4.) It affirmed the finding of no violation and terminated the investigation.

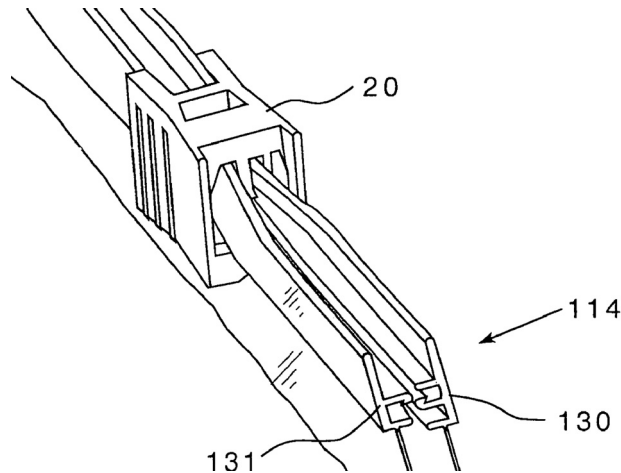
## **II. Facts And Testimony**

### **A. The '443 Patent**

#### **1. The Technology**

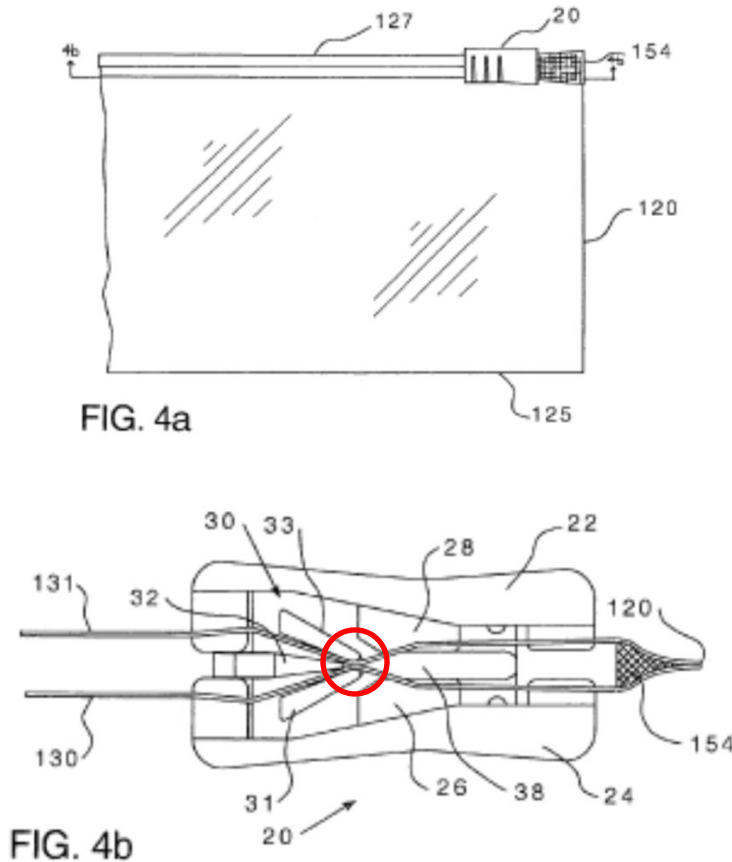
The '443 patent discloses a slider for a resealable bag in which upper flanges of a recloseable mechanism on the bag (*e.g.*, a zipper) pass through a channel in the “spreader” of the slider. As explained below, in the sole embodiment disclosed, the underside of the slider has a separating “finger” depending therefrom which cooperates with the protrusions or flanges that form the channel so that the flanges forming the channel will close the bag if the slider is slid in one direction and the finger will open the bag if the slider is slid in the other direction.

A perspective view of the bag is shown below, wherein the upper flanges of the profiles 130, 131 of the zipper go into the spreader and around the aforementioned “finger” through the slider 20 (Appx160, FIG. 1b):



The patent describes the placement of the slider on the bag and the subsequent opening and closing actions of the slider. The patent particularly describes that when the slider is first positioned on the bag it can be moved through a series of locations along the top of the zipper flanges. When the slider is first positioned on the zipper flanges, the upper flanges of the profile are positioned in a channel through a spreader.

Initially, the slider is placed on a partially open or fully open bag, as depicted in Figures 4a and 4b.<sup>1</sup> (Appx174, 6:37-44):

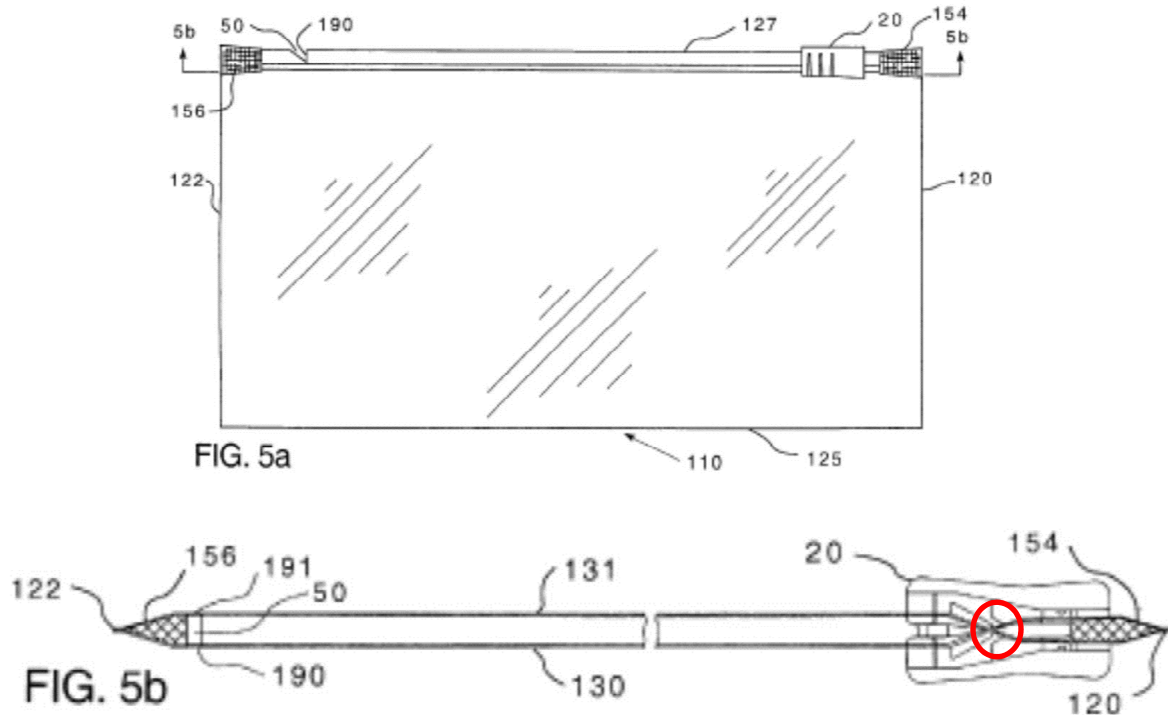


Here, the upper flanges of profiles 130, 131 are positioned in a channel (shown in red) through the spreader 30. In this embodiment, the slider 20 closes the bag moving to the left, and opens the bag moving to the right. (Appx1090, 100:6-9.)<sup>2</sup>

<sup>1</sup> Figure 4b is a cross sectional view of Figure 4a taken along line 4b-4b. (Appx173, 3:34-37.)

<sup>2</sup> In Figure 4b above, the flanges appear to be separated to the right of the circled channel; however, that is only because in Figure 4b the slider is positioned directly adjacent to the edge of the bag.

Next, Figures 5a and 5b depict the slider attached just spaced from an end of a zipper of a fully open bag. (Appx174, 6:60-63.)<sup>3</sup>

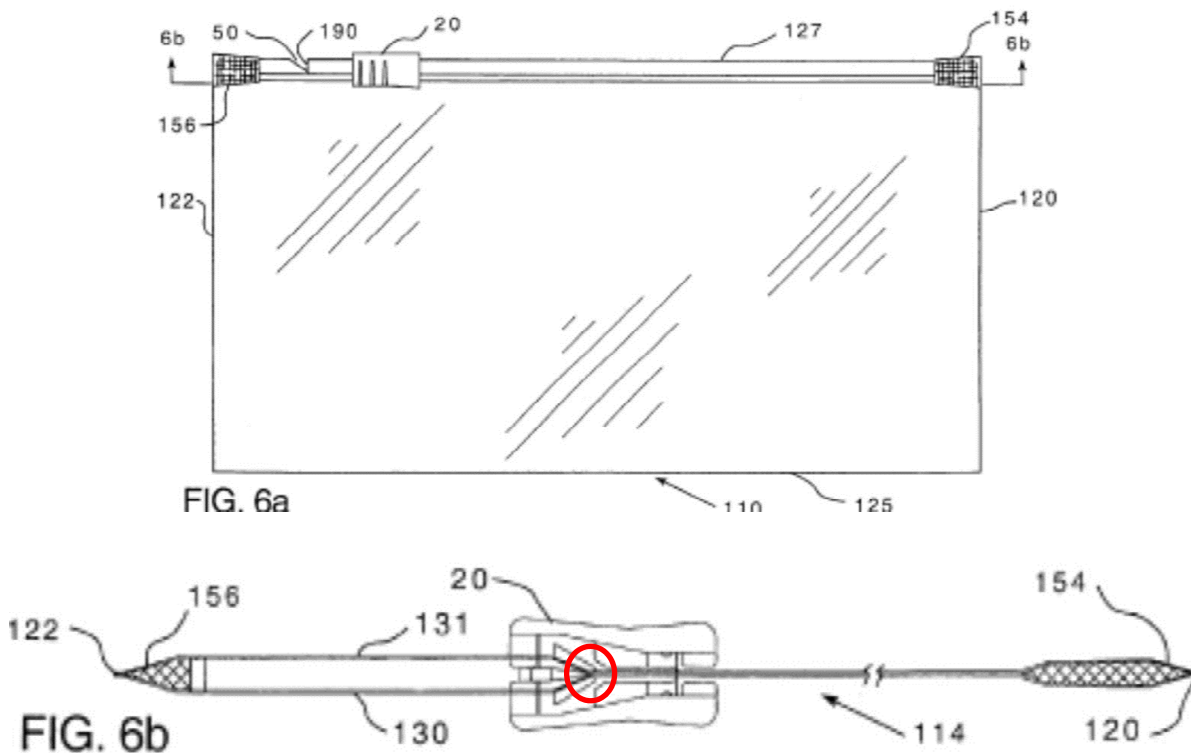


Here, the slider 20 is positioned at the end of the zipper of a fully open bag, with the flanges of the profile in the channel through the spreader (red circle). This is the preferred state in which the bag is sold to the consumer. (Appx175, 7:55-58.)

(See Appx165, FIG. 4a.) In a subsequent lateral position along the flanges (as, for example, shown in Figure 6b below) it is more clearly shown that movement to the left closes the bag and movement to the right opens the bag.

<sup>3</sup> Figure 5b is a cross sectional view of Figure 5a taken along line 5b-5b. (Appx173, 3:40-43.)

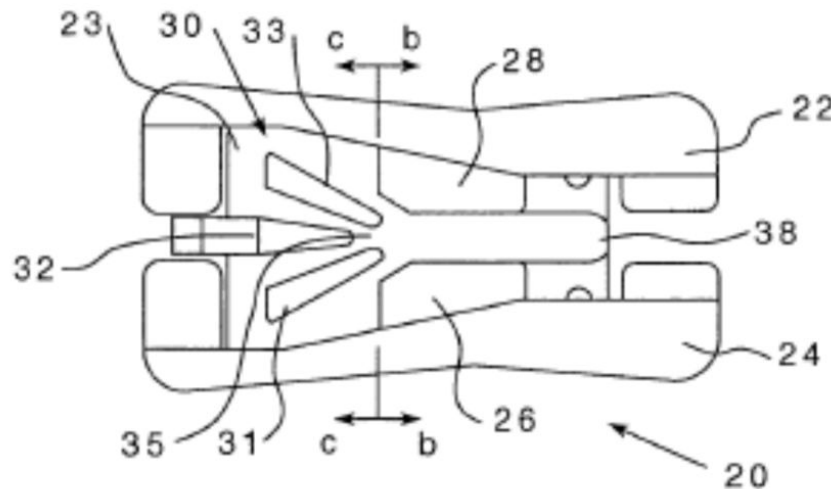
Figures 6a and 6b show the slider 20 after it has been laterally moved across the zipper to close the bag.<sup>4</sup> (*Id.*, 7:55-8:7.)



This figure shows the slider 20 with the flanges of the zipper in the channel through the spreader (red circle). Here, the slider is some length along the zipper away from the previously depicted bag edge. As shown in Figure 6b in particular, moving to the left will close the track, and moving right will open (or spread) the track. (Appx175, 7:63-64.) To close the track, the patent states, “[t]he slider is moved along the closure mechanism 114 in the direction opposite the

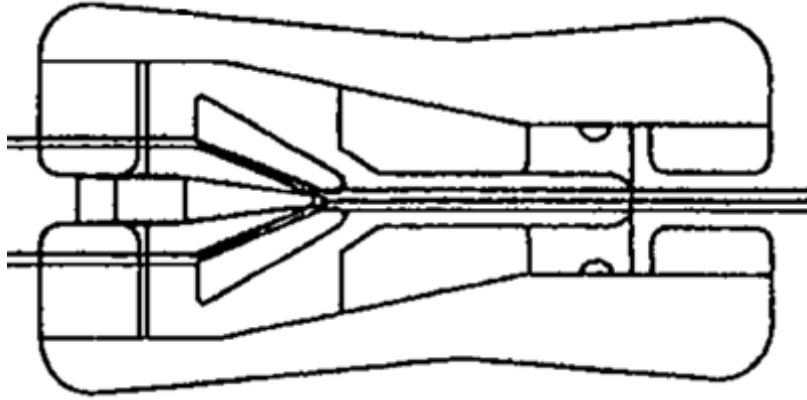
<sup>4</sup> Figure 6b is a cross sectional view of Figure 6a taken along line 6b-6b. (Appx173, 3:47-49.)

direction *it was moved in order to open the closure mechanism.*” (*Id.*) (emphasis added). The phrase “*it was moved in order to open the closure mechanism*” indicates that, in this positioning, the slider was previously moved to open the closure mechanism. The patent therefore teaches that the slider is capable of spreading the track. The interior mechanism for performing this function is shown more particularly in Figure 3a:



**FIG. 3a**

The interaction between the spreader and the zipper is shown in the expanded view of Figure 6b below, with the profiles in the slider:

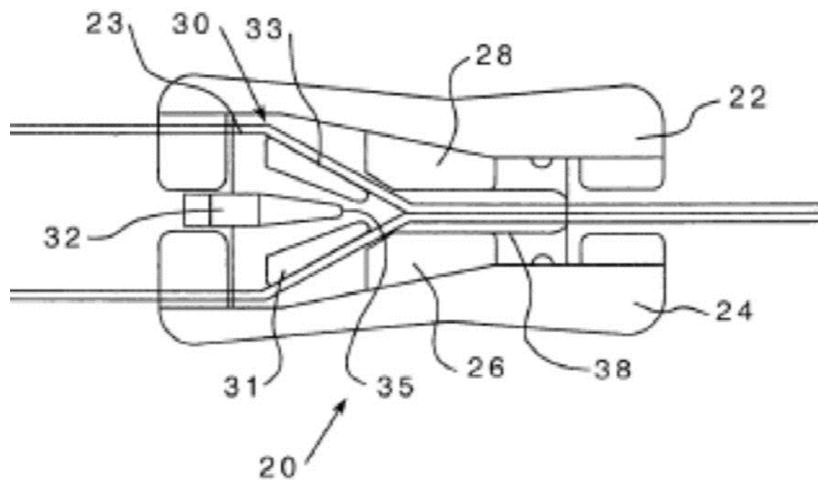


As shown above, finger 32 (see Appx162, FIG. 3a) spreads the track in conjunction with flanges 31 and 33 when the slider is slid to the right. Specifically, flanges 31, 33 hold the track in alignment with the separating finger 32, thereby ensuring that the track is spread by the separating finger 32 when the slider is slid to the right. (Appx1134, 144:18-22.)

Meanwhile, going in the opposite direction, the flanges 31, 33, which constitute part of the spreader 30 and which define the channel 35, function to also assist in *closing* the track. (Appx175, 8:4-8.) The patent describes the closing function of those outer flanges in connection with Figure 6b as follows: “As the slider 20 comes to rest in the notch 50, the ends 190, 191 of the upper flanges 184, 185 that form a side of the notch 50 pass fully through

the channel 35 of the spreader 30. *In this way*, the closure profiles 130, 131 are engaged<sup>5</sup> along their entire length.” (*Id.*)

Once the slider moves past a notch in the zipper, in “subsequent openings and closings,” the “upper flanges 184, 185 are directed *around the outside* of the spreader 30, along the flanges 31, 33, as shown in Fig. 9” (Appx175, 8:13-18) (emphasis added):

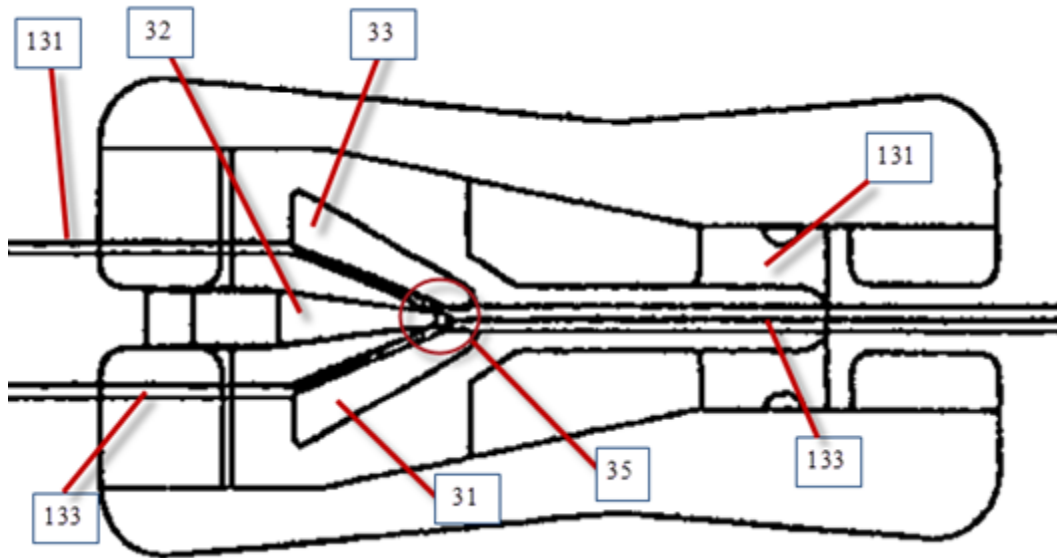


The '443 patent, therefore, discloses a spreader 30 comprising different parts that function differently depending upon whether the bag is being opened or closed. When the slider is first installed and sold to a consumer, *e.g.*, in a partially open state, the separating finger 32 of the spreader 30 spreads the track as the bag is fully opened, with the upper flanges in the channel 35 through the

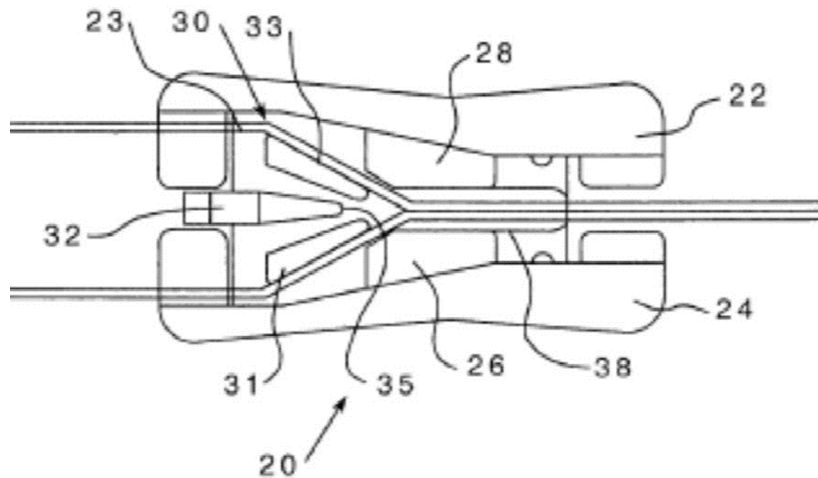
<sup>5</sup> *I.e.*, the profiles interlock, or close.



spreader, and wherein the flanges 31, 33 of the spreader either (i) hold those flanges in alignment with the finger 32 for spreading, or (ii) force the tracks into engagement during closing, all as depicted in Figure 6b (with reference numerals added):



Once the slider moves past the notch 50 at the end of the track, the upper flanges 184, 185 of the track 130, 131 go around the flanges 31, 33, and the triangular shape of the two flanges 31, 33 cooperate to spread the track, as shown in Figure 9b:



Flanges 31, 33, which are defined to be part of the spreader 30 (Appx175, 8:4-13), perform *both* a spreading *and* a closing function, depending on the position of the slider mechanism and closure.

## 2. The Claim

Claim 1 of the '443 patent is at issue.<sup>6</sup> It reads, with the only disputed element emphasized:

1. A resealable bag comprising:
  - (a) first and second panel sections joined together to define an enclosed region, first and second opposite side edges, a bottom and a mouth that provides access to the enclosed region;
  - (b) a closure mechanism comprising first and second closure profiles;

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<sup>6</sup> None of the prosecution history of the '443 patent was put into evidence or considered in relation to the construction or infringement of the “spreader” limitation in dispute.

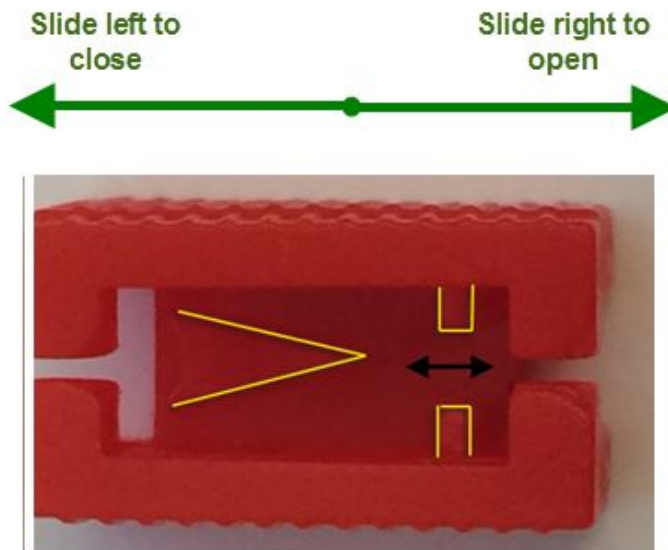
- (i) the first closure profile comprising a first base strip and a first upper flange, the first base strip having a first interlocking member extending therefrom;
  - (ii) the second closure profile comprising a second base strip and a second upper flange, the second base strip having a second interlocking member extending therefrom;
  - (iii) the first and second interlocking members constructed and arranged to selectively interlock;
- (c) a slider device for selectively opening and closing the closure mechanism, the slider device comprising:
- (i) a top wall and a pair of side walls, the top wall and side walls defining a cavity sized to receive the first and second upper flanges;
  - (ii) a spreader for separating the first and second closure profiles, the spreader depending from the top wall, the spreader having a channel therethrough;*** and
- (d) wherein the first and second upper flanges are positioned in the channel through the spreader.

### **3. The Accused Products**

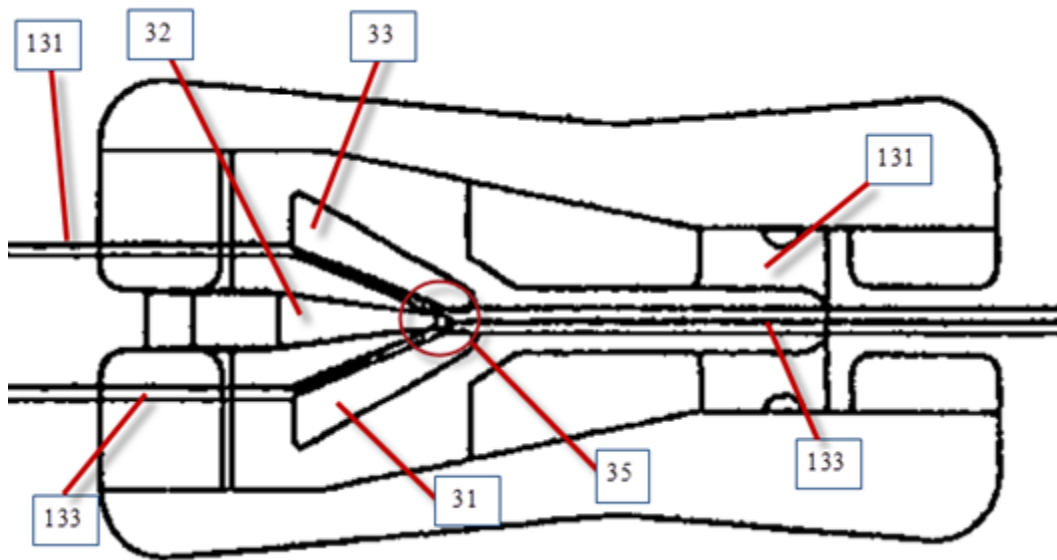
Respondents conceded that their accused products met every limitation of claim 1 *except* the spreader limitation. (Appx62.)

Discussion of the accused products, therefore, is limited here to discussion of the accused spreader element.

The accused products are depicted below, with relevant parts outlined in yellow:



(Appx903.) The wedge piece and the two rectangular ribs operate as a “spreader” in the same way as the separating finger 32 and flanges 31, 33 of the ’443 Patent operate as the spreader 30 in Figure 6b of the ’443 Patent (annotated below):



(Appx167.)

Like the flanges 31, 33 in the '443 patent, the yellow-outlined rectangular flanges or ribs of the accused product sometimes serve a closing function. (Appx904, Q188.) At the same time, however, and like the flanges 31, 33 in the '443 patent, those flanges or ribs in the accused product also operate in conjunction with the separator wedge to spread the zipper track profiles apart. (*Id.*) Those flanges guide the interlocking zipper members to the V-shaped wedge or finger portion of the spreader. (*Id.*) Given the relatively stiff material of the interlocking profiles, those flanges are necessary to guide the zipper members and keep them in proper alignment with the wedge portion of the spreader. (*Id.*) The concentration of the

stresses there results in minimizing the peeling force necessary for the separator wedge of the spreader to spread the profiles apart.

(*Id.*) This is identical to the action demonstrated in Figure 6b of the '443 patent. (Appx1036, 44:12-18; Appx1090, 100:1-13; Appx1083-1084, 93:25-94:6.)

Respondents' expert, Mr. Jack Shields, initially agreed with the above analysis relative to Figure 6b in his direct testimony (offered via witness statement per the ALJ's ground rules). (Appx993, Q211.) ("In other words, the spreader includes two angled wedges separated by a channel, with a middle portion positioned between the two angled wedges. If that is now [Presto's expert, Dr. Reinholtz's] construction, *then I do not disagree that the Presto sliders have a spreader having a channel therethrough, as those terms are properly construed.*") Mr. Shields adopted that witness statement as his direct testimony and never identified any mistakes in that statement. (Appx1131-1132, 141:25-142:8.)

On cross-examination, however, Mr. Shields recanted his direct testimony and offered a new revelation—that the patent figures are "wrong." (Appx1126-1127, 136:12-137:25.) Mr. Shields was only able to maintain his new position momentarily, however.

When confronted with the disclosure of the patent, especially in relation to Figure 6b above, Mr. Shields reversed course again, admitting that Figures 4b and 6b are, in fact, *correct* depictions of the slider in operation. (Appx1136-1138, 146:17-148:3.)

Mr. Shields also testified:

Q: Okay. And – so let’s go back to figure 6b again. So here in figure 6b, elements 31 and 33 are functioning to guide the closure profiles toward element 32; correct?

A. Yes.

Q. Okay. *And by doing that, they’re opening the bag?*

A. *That’s correct.*

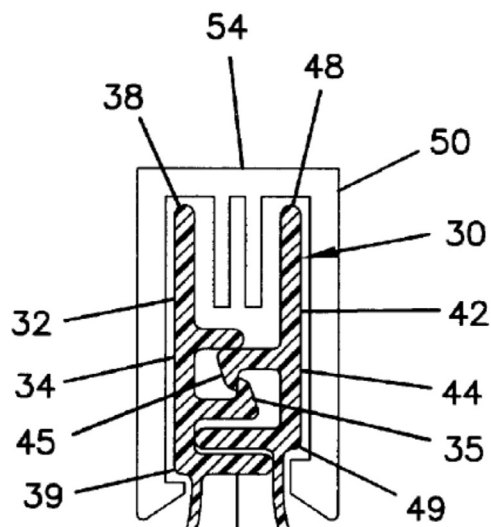
(Appx1141, 151:3-10) (emphasis added). In other words, Mr. Shields admitted in his direct testimony, and (at least in part) in his cross examination testimony that in Figure 6b of the patent the two outer flanges (31, 33) and the middle finger (32) are the claimed spreader as depicted in the disclosed embodiment.

So, other than a momentary flip-flop of Respondents’ expert, the functioning of the “spreader” and its mechanical make-up in both the sole embodiment of the patent and the accused product were not disputed.

## B. The '002 Patent

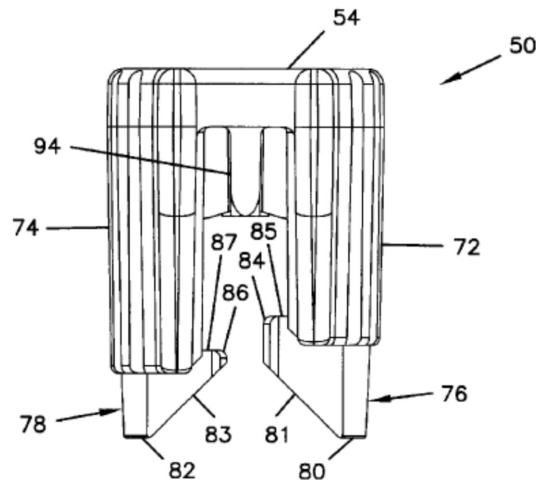
### 1. The Technology

The '002 patent discloses a slider for a recloseable bag having angled deflection surfaces to enable mounting of the slider over and onto a zipper track. (Appx133, Abstract.) A schematic of the slider 50 installed over the top of the track 30 is shown in Figure 2:



(Appx136.) A cross sectional view of the slider 50 showing the angled deflection surfaces 81, 83 is shown in Figure 9:



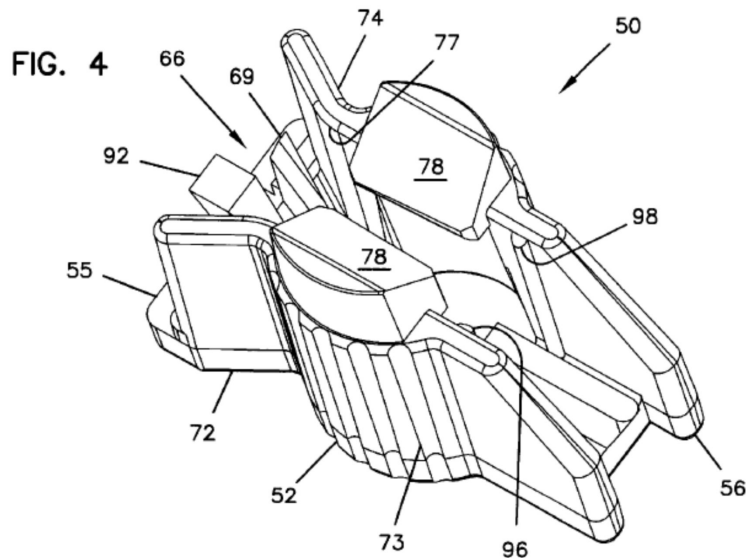


(Appx139.) The slider also comprises hook constructions 76, 78. The angled deflection surfaces 81, 83 are on the underside of the hook constructions to facilitate mounting onto a track. The opposite side of the hook constructions 76, 78 provide engagement surfaces 85, 87 which align below shoulders of the track 39, 49 (see Figure 2 above) to prevent the slider 50 from being lifted off.

Each hook construction 76, 78<sup>7</sup> has a hook length, as show in the isometric view in Figure 4:

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<sup>7</sup> One of the hook constructions 78 should actually be labeled as hook construction 76.



(Appx137.) The engagement surface 85, 87 for hook constructions 76, 78 in the exemplary embodiment extend the hook length. The specification is silent regarding whether the hooks must be uninterrupted or how many hooks per side there might be. Respondents' expert, Mr. Shields, admitted that the specification allows for multiple hooks per side. (Appx1162, 172:7-21.)

The '002 patent discloses that the angle of the deflection surfaces 81, 83, relative to the top wall 54 of the slider 50 “is about 30 to 60 degrees, typically about 40 to 50 degrees, and preferably about 45 degrees. In other words, deflection surfaces 81, 83 form an angle of about 30 to 60 degrees, typically about 40 to 50 degrees, and preferably about 45 degrees to a plane parallel to top wall 54.” (Appx148, 8:15-20.)

## **2. The Claim**

Claim 1 of the '002 patent is at issue. The parties disputed the meaning of “extending the hook length” and “about 40 to 50 degrees.” The claim reads, with the disputed limitations emphasized:

1. A flexible package comprising:
  - (a) a package surrounding wall having first and second panel sections and a mouth therebetween; said mouth providing access to a package interior;
  - (b) a resealable closure mechanism along said mouth for selective opening and closing of said mouth; said closure mechanism extending from a first side edge to a second side edge and including first and second closure profiles;
    - (i) said first and second closure profiles being constructed and arranged to interlock; and
  - (c) a slider device for selectively opening and closing said closure mechanism; said slider device having a housing defined by a first sidewall and a second sidewall each having a first end and a second end, the slider device further having:
    - (i) a top wall;
    - (ii) a spreader depending from said top wall for separating said first and second closure profiles;

(iii) a first hook construction depending from said top wall, said first hook construction having:

(A) a first end opposite said top wall, the first end defining a hook length;

(B) a **first deflection surface** positioned on an internal surface of said first hook construction at said first end and **positioned at an angle of about 40 to 50 degrees from said top wall**; and

(C) a first engagement surface to engage said first closure profile, **the first engagement surface extending the hook length**;

(iv) a second hook construction depending from said top wall, said second hook construction having:

(A) a second end opposite said top wall, the second end defining a hook length;

(B) a **second deflection surface** positioned on an interior surface of said second hook construction at said first end and **positioned at an angle of about 40 to 50 degrees from said top wall**; and

(C) a second engagement surface to engage said second closure profile, **the second engagement surface extending the hook length**; and

(v) a channel defined by said first and second hook constructions and extending

therebetween to accept said closure mechanism.

### **3. The Prosecution History**

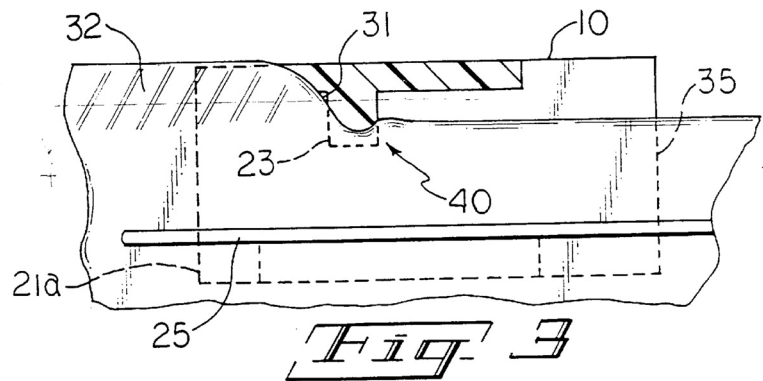
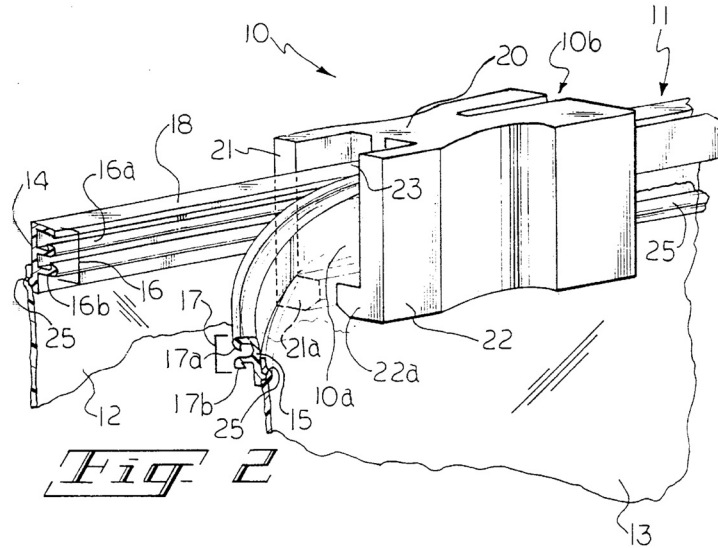
The '002 patent was initially rejected over U.S. Patent No. 5,950,285 to Porchia ("Porchia") and U.S. Patent No. 6,293,701 ("the '701 patent").

#### **a. Porchia**

In relation to Porchia, the Examiner alleged:

Porchia et al. '285 discloses the claimed invention except for the first and second deflection surfaces (at the bottom of first and second hook constructions 21a, 22a) having an angle of about 40 to 50 degrees from the top wall. It would have been an obvious matter of design choice to position the first and second deflection surfaces of Porchia et al. '285 at an angle of about 40 to 50 degrees from the top wall, since applicant has not disclosed that angling deflection surfaces at an angle of about 40 to 50 degrees from the top wall solves any stated problem or is for any particular purpose and it appears that the invention of Porchia et al. would perform equally well with first and second deflection surfaces at an angle of about 40 to 50 degrees from the top wall.

(Appx540.) The Examiner's statements refer to Figures 2 and 3 of Porchia:



Porchia disclosed angled surfaces to the top wall on the underside of the slider. (See Figure 2, areas adjacent 21a, 22a.) Porchia did *not* disclose what those angles were, whether there were unangled portions of the wall, or whether those angles acted as “deflection surfaces.” (See *generally*, Appx910-917.) Respondents’ expert admitted that angling the deflection surfaces to a specific wall, as claimed in the ’002 patent, was *not* grounds for overcoming any prior art. (Appx1157-1158, 167:16-168:15.)

Presto amended the claims to clarify the hook construction. It added the limitation that the hook construction has an end “defining a hook length” and “the [] engagement surface extending the hook length.” (Appx556-557.)

In connection with those amendments, Presto explained that “each hook construction has a deflection surface that extends the length of the hook construction” and “[t]he hook construction has a length, and the deflection surface extends continuously along the length of the hook construction.” (Appx552, Appx554.)

Presto also attempted to differentiate Porchia based on its engagement surfaces extending the hook length. Presto’s explanation on this point, however, was subject to interpretation at trial:

Referring to Fig. 3 in Porchia, the cross-sectional view of the slider shows that the shoulders (only shoulder 21a being shown) are not-continuous along the length; rather, two, discontinuous shoulders exist.

(Appx554.)

The meaning of that statement, however, is unclear. *First*, Presto’s technical expert testified that the statement was “pretty unclear” and “ambiguous,” in part because it was unclear what

“length” Presto was referring to in that passage. (Appx1081, 91:10-17.) *Second*, the ALJ voiced his confusion over the reference to “shoulders,” in part because “shoulders” are not an element of the claims. This colloquy between the ALJ and Respondents’ own expert demonstrates the confusion over that passage:

JUDGE ESSEX: Let me ask you a question while we’re on this. You explained in very simple terms the difference between the hooks and shoulders. I’m not sure I know the difference.

Do all hooks have shoulders, or do some shoulders become hooks, or what is the difference?

WITNESS: The hook is defined as keeping the slider mechanism on the top of the bag so it doesn’t fall off. Once it’s inserted on top of the bag, the hooks become engaged underneath the profile, the zipper profiles, to stop it from pulling off.

JUDGE ESSEX: All right. What’s a shoulder?

WITNESS: It depends on how it’s defined. *I don’t know in this context what the shoulder is, but the hook is defined as that.*

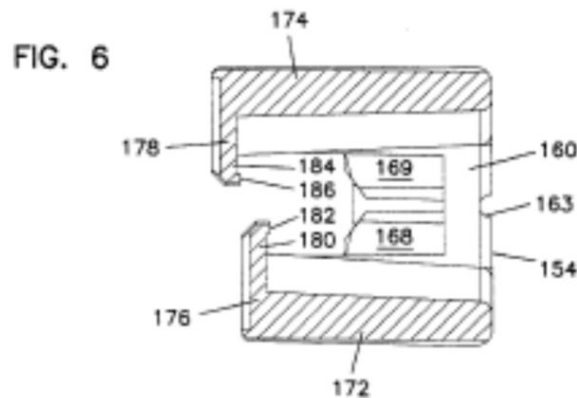
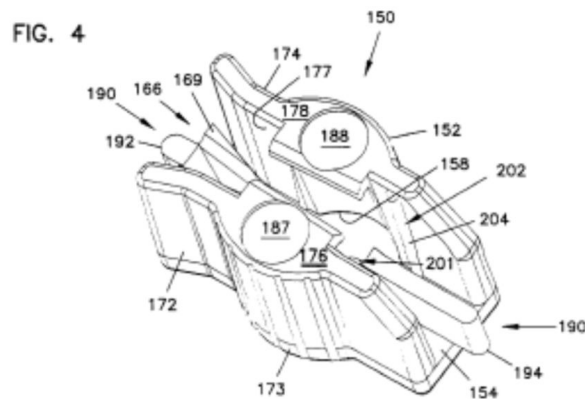
JUDGE ESSEX: *I’m glad you don’t know. That makes me feel better.*

(Appx1198-1199, 208:24-209:15) (emphasis added).



### **b. The '701 Patent**

The Examiner also found the relevant claims unpatentable based on obviousness-type double patenting over the '701 patent. The Examiner found that, while the claims were not identical, it would have been an obvious design choice to position the deflection surfaces at 40 to 50 degrees from the top wall since no particular problem or advantage was cited for those angles by the applicant. (Appx538.) Relevant figures of the '701 patent are shown here:



Presto responded to the double patenting rejection by successfully arguing that the '701 patent "has hooks (e.g., 176, 187<sup>8</sup>) each having a flange (180, 184) from which projects a tip (182, 184<sup>9</sup>). See for example, FIG. 6 of the '701 patent."

Citing the requirement that obviousness-type double patenting requires comparison of the claims to claims (*i.e.*, not to the entire disclosure), Presto distinguished its claims from the issued claims of the '701 patent:

The claims of the pending application recite a slider device having a top wall and hook constructions (e.g., 76, 78) depending from the top wall. The hook constructions include deflection surfaces (81, 82) positioned on an internal surface and positioned at an angle of 40-50 degrees from the top wall.

There is no claim in the '701 patent that recites a deflection surface or similar structure on the slider device. Still further, there is no claim in the '701 patent that recited a deflection surface positioned at any angle, much less and angle of about 40 to 50 degrees, from the top wall. As stated above, there is no recitation of even having a deflection surface.

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<sup>8</sup> Should read 178.

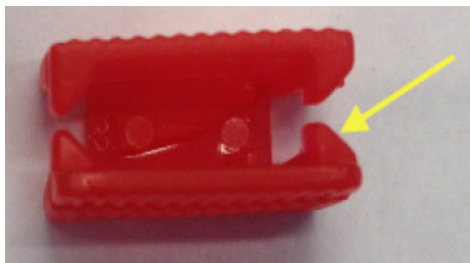
<sup>9</sup> Should read 186.

(Appx553.) Presto also cited to pages 15, lines 24-30 of the application (10:24-32 of the issued '002 patent) for the description of the particular problem solved by the angled deflection surfaces.

(*Id.*)

#### **4. The Accused Product**

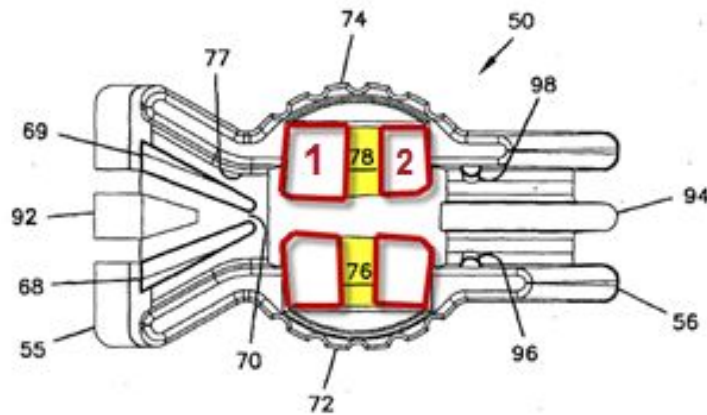
The accused product includes deflection surfaces angled at 45 degrees, except that the angle is to the *rear* wall instead of the top wall.



(Appx888.) Both experts agreed that the angled surfaces are deflection surfaces to facilitate mounting of the sliders on the track.

(Appx1051, 59:10-12; Appx1159, 169:6-16.) In the accused product, the sliders are mounted at a forward angle to the track. (Appx1094, 104:6-16.) In the patent, the slider is mounted directly over the track. In either event, the slider utilizes angled surfaces on the leading edge of slider to deflect the slider walls apart and mount the slider over the track. (*Id.*; Appx889-890, Q117-18.)

At the hearing, Respondents' expert considered a hypothetical slider having multiple hooks on each side of the slider, *i.e.*, one hook on each side (red boxes 1 and 2) separated by a gap, as shown here:



He conceded that the slider would, for each hook construction, have a “continuous engagement surface running along the length of the hook construction.” (Appx1162, 172:4-22.) Respondents

nevertheless argued that a “discontinuous” hook construction could not be covered by the claims because Porchia “only teaches discontinuous shoulders.” (Appx1165, 175:18-22.) But Porchia *does* disclose continuous shoulders. (Appx915, 4:63-64) (“The shoulders *can be continuous* or intermittent along the length of the slider.”) (emphasis added).

### **III. The Commission Decision**

The Commission adopted the initial determination (“ID”) with one modification. Except for that one addition, the ID is considered the final determination of the Commission. Reference to the decision on review is made to the ID.

### **SUMMARY OF THE ARGUMENT**

The Commission consistently overlooked the critical facts and the law when it determined no violation by Respondents’ accused sliders.

*First*, the Commission repeatedly misapplied prosecution history estoppel—both in its claim constructions and in consideration of the doctrine of equivalents—to find clear and unambiguous disavowals of claim scope that never occurred. In each case, the purported disavowal came about as a result of

arguments made to secure allowance of the claims. But, this Court has long recognized the danger of giving in to the temptation to read too much into, or just plainly misconstrue, attorney arguments in the prosecution history. The remedy, repeatedly overlooked here, is to limit disavowal to “clear,” “unambiguous” and “unmistakable” surrenders of claim scope.

In this case, the alleged disavowals were anything but. For example, the Commission found that Presto had disavowed a certain geometry of the claimed “hook construction” of the claimed slider, *even though* the live testimony at trial showed that both experts *and the ALJ himself* were unable to make sense of the passage from the prosecution history that the Commission ultimately relied on. In another instance, the Commission found that Presto’s statement during prosecution that a deflection surface was “to the top wall” disavowed orientation to a *rear* wall, *even though* Presto never attempted to distinguish the prior art on that ground. Indeed, not only did Presto never mention a rear wall, it would have been meaningless if it had because the claims and the cited art *both* showed an orientation *to the top wall*. There was no

rear wall orientation anywhere in the prosecution history to disavow.

*Second*, compounding the Commission's legal errors, it also ignored mountains of evidence, and in some cases, the only evidence. The Commission credited Respondents' expert's bald conclusion that portions of Respondents' slider could not be part of a separator merely because it sometimes has a closing function. The problems with crediting that statement were manifold. First, Respondents' expert contradicted his own direct testimony in making that statement. Second, he admitted those same closing features *also* have a spreading function. Third, the patent discloses that portions of the spreader could do both. Fourth, Presto's expert explained exactly how the spreader does both in the context of both the claimed invention and Respondents' slider. The Commission decision did not even allude to any of that evidence in its decision. Additionally, having improperly resorted to a legally flawed application of prosecution history disclaimer, the Commission declined to address undisputed evidence of actual infringement, both literally and under the doctrine of equivalents.

From those manifest errors of law and fact, this Court should reverse the determination of no violation.

## **ARGUMENT**

### **I. Standard Of Review**

Except as modified by the Commission, the ID is the Commission decision on review. 19 C.F.R. § 210.42(h)(2).

Because the ID did not reference any extrinsic evidence in its claim construction (Appx33-49),<sup>10</sup> the Commission's claim construction is reviewed *de novo*. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015) ("when the district court reviews only evidence intrinsic to the patent (the patent claims and specifications, along with the patent's prosecution history), the judge's determination will amount solely to a determination of law, and the Court of Appeals will review that construction *de novo*"); *Gemstar-TV Guide Int'l, Inc. v. ITC*, 383 F.3d 1352, 1360 (Fed. Cir. 2004) (review of ITC legal determinations *de novo*).

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<sup>10</sup> The ID references a dispute of the parties concerning interpretation of the prosecution history of the '002 patent, but the ID did not resolve that dispute. (Appx38-39.) Instead, it discounts the experts' claims of ambiguity, referencing only the prosecution history itself: "The relevant focus is on the applicant's statements to the examiner and their understanding at the time of the exchange." (Appx39.) Thus, *de novo* review is appropriate.



Infringement is a fact issue reviewed for substantial evidence. *Kinik Co. v. ITC*, 362 F.3d 1359, 1361 (Fed. Cir. 2004). Substantial evidence is “such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.” *Id.*

Review of Commission fact-finding for substantial evidence under the Administrative Procedures Act requires consideration of the “whole record.” 5 U.S.C. § 706(2)(E). “The substantiality of evidence must take into account whatever in the record fairly detracts from its weight.” *Universal Camera Corp. v. N.L.R.B.*, 340 U.S. 474, 488 (1951). Where the ALJ “ignores or overlooks essentially all of the evidence offered [to the contrary], and provides no explanation for why such evidence was inappropriate for consideration, unpersuasive, or otherwise not entitled to any weight...Any determination by an ALJ that is based on findings made in the abstract and independent of the evidence which fairly detracts from his or her conclusions is unreasonable and, as such, is not supported by substantial evidence.” *Whitmore v. Dept. of Labor*, 680 F.3d 1353, 1376 (Fed. Cir. 2012) (ALJ did not discuss opposing evidence, so decision vacated and remanded) (citations omitted).

## **II. Respondents Infringe The '443 Patent**

The Commission erred in both its construction of the “spreader” limitation and the application of the limitation to Respondents’ accused slider bags. Properly construed, the “spreader” is “a protrusion or series of protrusions on the underside of the slider that contribute to spreading the zipper profiles.” This construction flows directly from the specification and the drawings, both of which clearly identify protrusions (flanges or ribs, and a separating finger) that contribute to the spreading function. The specification clearly labels those protrusions as part of the “spreader,” even when they do not themselves physically separate the zipper track, but rather contribute to the spreading function by guiding the track to the separating finger.

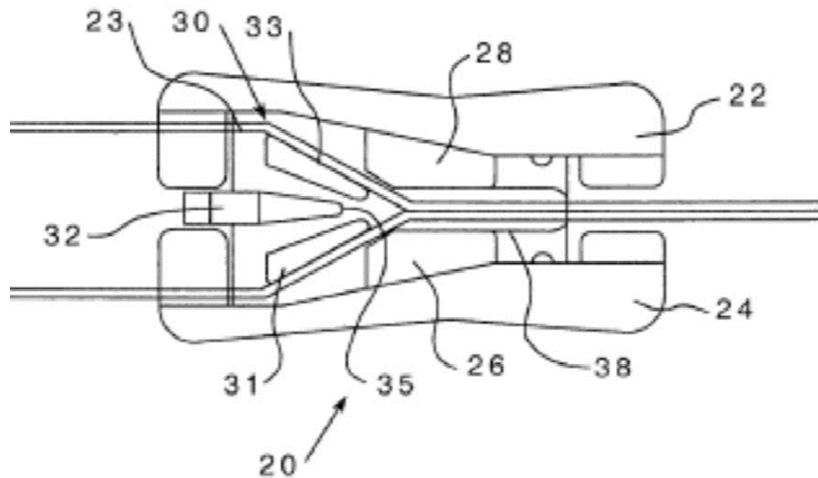
Furthermore, even under the Commission’s construction, “the portion of the slider that spreads apart the closure mechanism (zipper) to open the bag,” the specification and drawings *still* clearly identify two flanges which form a channel through which the track is guided towards a central separating finger, all of which cooperate to spread the zipper. Respondents’ slider bags have these same

three structural features. The Commission's determination of no infringement should be reversed.

**A. Proper Construction Of “Spreader”**

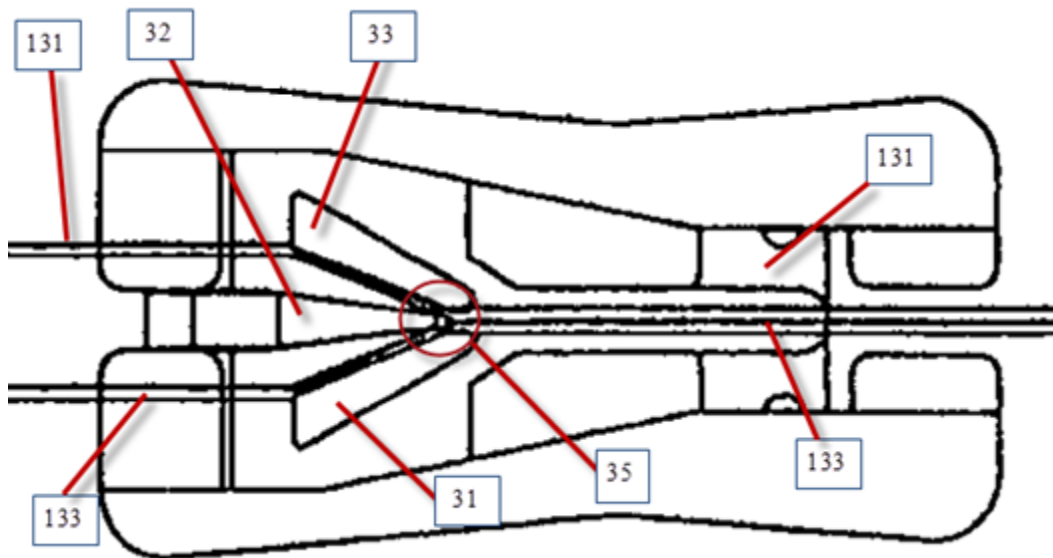
The '443 patent consistently describes the spreader by reference to a series of protrusions on the underside of the slider that contribute to the spreading of the zipper profiles. Claims “must be read in view of the specification of which they are a part.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (*en banc*) (internal citation and quotation omitted). The specification “is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Vitronics Corp. v. Conceptronic*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

Here, the specification, in conjunction with Figures 6a, 6b and 3a, identify the spreader 30 as comprising protrusions (*i.e.*, flanges) 31, 33 on the underside of the slider that contribute to spreading the zipper profiles. (Appx175, 8:4-13.) In fact, no party disputes that, in Figure 9, “flanges 31, 33” (*i.e.*, the protrusions) contribute to spreading the zipper:

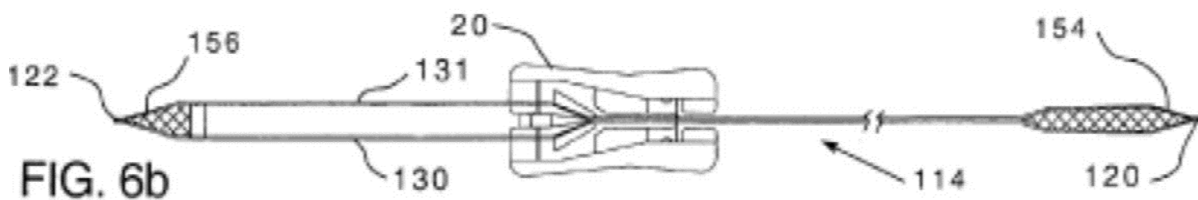


(Appx170.)

Respondents and the Commission denied that flanges 31, 33 and finger 32 are also “protrusions on the underside of the slider contribute to spreading the zipper” when they function as depicted in Figure 6b. But, that figure (annotated below) shows the operation of flanges 31, 33 and finger 32 when the track flows through the channel as required by the claim at issue:



As shown in the expanded view portion of Figure 6b, flanges 31 and 33 guide the track to finger 32, thereby spreading the zippers open. Indeed, there was no reason to doubt that protrusions 31, 33 and finger 32 are part of the spreader, *especially because the specification says and shows so*. The full Figure 6b shows the slider moving along, *and opening*, the track:



The patent describes these elements as both opening and closing the track: “The slider is moved along the closure mechanism 114 in the direction opposite the direction *it was moved in order to*

*open the closure mechanism.*” (Appx175, 7:63-64) (emphasis added). In other words, as shown in Figure 6b with the slider in the middle of the bag closure, the slider has “moved in order to open the closure mechanism.” (*Id.*) The past tense reference to “moved in order to open the closure mechanism,” coupled with the figure clearly showing the track entering the channel 35 between the flanges (*i.e.*, protrusions) 31, 33 and being separated by finger 32, demonstrates all the different parts of the “spreader.” Flanges or ribs 31, 33 contribute to opening the track by holding the track in alignment with the finger 32 that separates the track. This spreading function is identified clearly in the specification: the slider “was moved *in order to open* the closure mechanism.” (*Id.*) And, this figure shows the preferred embodiment wherein the slider is mounted to a partially open or fully open bag. (Appx175, 7:55-58.) And again, lest there be any doubt, the specification and figures explicitly label flanges 31 and 33 as part of the spreader. (Appx175, 8:4-13.)

Presto’s construction plainly comports with the specification *and* the sole disclosed embodiment wherein the track travels through a channel that contains a central separator. An alternative

construction would “rarely, if ever” be correct, and it is not so here. *Vitronics*, 90 F.3d at 1583 (construction that reads out preferred embodiment “is rarely, if ever, correct and would require highly persuasive evidentiary support”).

The Commission rejected Presto’s construction because Presto’s construction would have included separator 32 as part of the “spreader,” and “Presto cites to nothing in the patent itself that supports such a construction.” (Appx49.) But that is clearly wrong. As demonstrated above, and as extensively shown at trial (Appx904, Q188; Appx1036, 44:12-18; Appx1090, 100:1-13; Appx1083-1084, 93:25-94:6; Appx993, Q211; Appx1131-1132, 141:25-142:8), in Figure 6b, separator 32 is *absolutely* shown as separating the track while protrusions 31, 33 are shown as enabling that separation by holding the track in alignment with separator 32. And, in Figure 3c the spreader (represented by the arrow and numeral 30), points to the structure that includes protrusions 31, 33, channel 35, *and* finger 32:

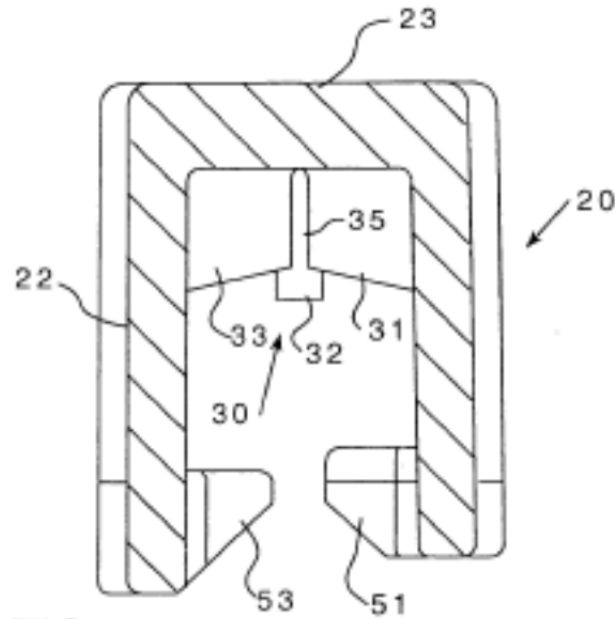


FIG. 3c

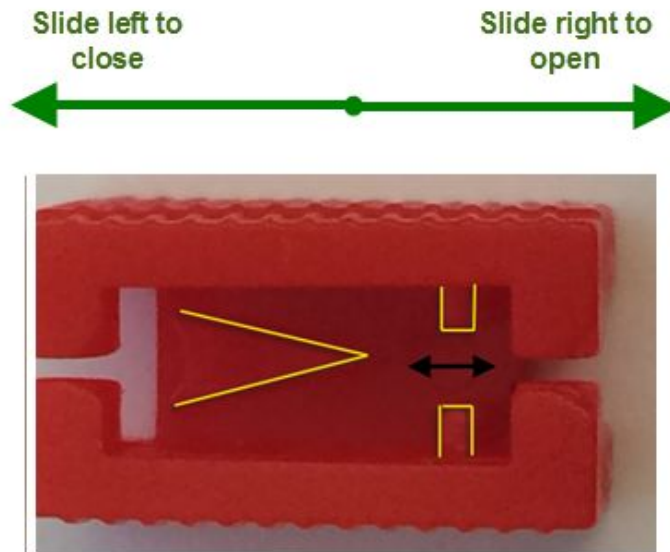
(Appx172.)

The Commission's construction should therefore be corrected to "a protrusion or series of protrusions on the underside of the slider that contribute to spreading the zipper profiles."

**B. The Accused Slider Products Include A "Spreader"**

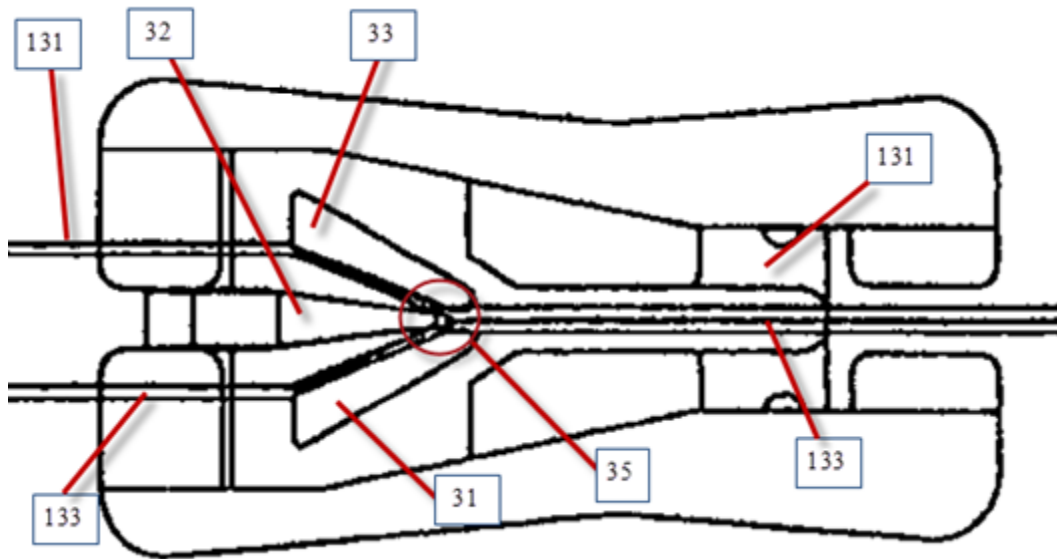
The accused sliders have a "protrusion or series of protrusions on the underside of the slider that contribute to spreading the zipper profiles." Presto's expert, Dr. Reinholtz, describe the "spreader" limitation in relation to the accused slider shown below:





(Appx903.) While the yellow-outlined rectangular ribs or flanges in the accused product sometimes have a closing function, as when the slider is moved left, *they also have an opening function, as when they guide the track against the yellow-outlined wedge to separate the zipper track profiles apart.* (Appx904, Q188.) Just as in the patent, given the relatively stiff material of the interlocking profiles, these ribs or flanges are necessary to guide the zipper members and keep them in proper alignment with the wedge portion of the spreader. (*Id.*) The concentration of the stresses there results in minimizing the peeling force necessary for the separator wedge of the spreader to spread the profiles apart. (*Id.*) The identical action is demonstrated in Figure 6b of the '443 patent, wherein the flanges

31, 33 have a channel 35 therethrough to concentrate stresses to enable the finger 32 to separate the track, as shown below:



(Appx1036, 44:12-18; Appx1083-1084, 93:25-94:6; Appx1090, 100:1-13.)

The direct testimony of Respondents' expert, Mr. Jack Shields, *confirmed* that analysis. (Appx993, Q211) ("In other words, the spreader includes two angled wedges separated by a channel, with a middle portion positioned between the two angled wedges. If that is now [Presto's expert, Dr. Reinholtz's] construction, *then I do not disagree that the Presto sliders have a spreader having a channel therethrough, as those terms are properly construed.*") Mr. Shields

adopted that statement as his direct testimony and never identified any mistakes in that statement. (Appx1131-1132, 141:25-142:8.)

Respondents' attempts to counter that clear, *and undisputed* evidence fall flat. First, Mr. Shields attempted to recant his direct testimony on the basis that Figure 6b could not *actually* show what it clearly shows because the patent figures were "wrong." (Appx1126-1127, 136:12-137:25.) But once Presto confronted Mr. Shields with the disclosure of the patent, especially in relation to Figure 6b above, he reversed course again and *admitted* that Figures 4b and 6b are, in fact, correct depictions of the slider in operation. (Appx1136-1137, 146:17-148:3.) Mr. Shields also testified:

Q: Okay. And – so let's go be to figure 6b again. So here in figure 6b, elements 31 and 33 are functioning to guide the closure profiles toward element 32; correct?

A. Yes.

Q. Okay. *And by doing that, they're opening the bag?*

A. *That's correct.*

(Appx1141, 151:3-10) (emphasis added). And,

Q: So this depiction [figure 6b] shows the flanges of what's called the spreader in the patent as serving to close in one direction and cooperating with the middle separator to open or separate the closure profiles when going in the other direction?

A. That's what it depicts.

(Appx1148-1149, 158:23-159:3.) And finally,

Q: You would agree that as the bag travels through the [patented] slider, the upper flanges of the closure profiles travel through this channel; correct?

A. Yes.

Q. All right. And when they move in one direction, those two adjacent flanges help to close it, help to bring those closure profiles together; correct?

A. Correct.

Q. *And then when you move them in the other direction, they help open it, along with the separator?*

A. *That's correct.*

(Appx1151, 161:14-24) (emphasis added).

Respondents' attempt to avoid infringement by denying the analogy of their product to the preferred embodiment of the '443 patent disintegrated on cross-examination.

Second, Mr. Shields flatly asserted that the rectangular ribs of the accused product close the bag. (Appx1141-1149.) On that basis, Respondents assert the ribs cannot contribute to spreading. However, it is clear that in the patented product, the analogous structures (*i.e.*, protrusions/flanges 31, 33) *do both*. Respondents' expert testified as much. (Appx1141, Appx1148-1149, and Appx1151 at 151:3-10; 158:23-159:3; 161:14-24.) When questioned whether the rectangular ribs do *exactly* what flanges 31, 33 do, namely, guide the closed profiles to the separator for spreading, Mr. Shields tied himself in knots trying to explain what those ribs do and don't do.

On whether the closure profiles go through the channel between the rectangular ribs:

Q. But you would agree that these flanges stop the closure profiles—well, force the closure profiles through this channel in the slider?

A. No.

(Appx1142, 152:18-21.) Moments later...

Q. So the upper flanges of the closure profiles will travel through that channel?

A. What channel?

Q. The cavity here—

A. Yes.

Q. —in the slider?

A. Yes.

(Appx1143 at 153:11-19.) Also,

Q. So the closing mechanism travels—the closure mechanism travels through this cavity; correct?

A. That's correct.

Q. And you could also call this a channel, couldn't you?

A. Sure.

(Appx1145, 155:12-17.)

On the issue of the ribs guiding the closure to the separator, first:

Q. So you don't believe that these two flanges [ribs on the accused product] guide the closure profiles through this channel?

A. No.

(Appx1142, 152:15-17.) Then:

Q. They're [the profiles] closed, and these flanges keep that closed portion of the bag moving toward the separator?

A. *They do.* They keep the closure closed.

(Appx1144, 154:22-24.)

Over the course of his cross-examination, Mr. Shields admitted the ribs guide the closure to the separator for spreading, but his testimony reveals that his only real argument is that the ribs could not be part of the spreader because they close the profiles:

Q. So the middle finger [of the patented slider], by physically getting in between the two sides, you would agree is functioning as a separator?

A. That's what it depicts.

Q. And the same is true here. So as you've said, the two closure mechanisms will be sealed. They will pass through this channel. These two flanges will help guide the closed bag through there toward this separator; correct?

A. No.

Q. And your argument is the guiding?

A. Yes. *My argument is in a closed position, those flanges would do nothing. They don't guide anything.* The closure is held together by the closure of the mechanism. Those flanges, their only purpose in this device is to close the profiles together. If they don't do that, where are the profiles closed? What closed the profile? Nothing.

Q. So by closing it, *it's also guiding it*, isn't it?

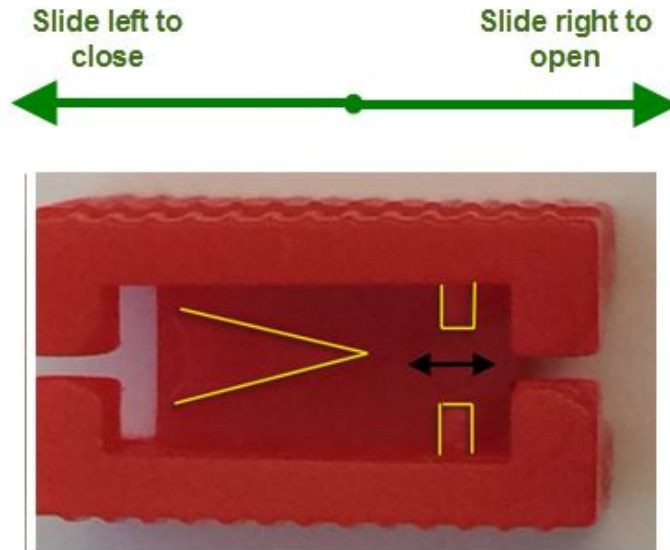
- A. It's touching it *and guiding it*—it's closing it and moving it, but it does nothing to make the separator. It does the exact opposite function of a separator. It's closing the closure, not opening them.

(Appx1146-1147, 156:15-157:13) (emphasis added).

Ultimately, Mr. Shields admitted the ribs guide the profile to the separator of the accused product, and he admitted that is precisely how the patented spreader works. (Appx1141, 151:3-10; Appx1148-1149, 158:23-159:3; Appx1151, 161:14-24.) Thus, his emphasis on the closing function of the ribs of the accused product was totally misplaced. Not only does the '443 patent identify the closing function of portions of the "spreader" (Appx175, 8:4-8), but both experts testified as to that function. (Appx1036, 44:12-18; Appx1083-1084, 93:25-94:6; Appx1090, 100:1-13; Appx1141, 151:3-10; Appx1148-1149, 158:23-159:3; Appx1151, 161:14-24; Appx904, Q188.)

Based on the whole record at trial, the accused product below:





has “a protrusion or series of protrusions on the underside of the slider that contribute to spreading the zipper profiles.” This Court should reverse the Commission’s non-infringement determination.

**C. The Accused Product Still Infringes Even Under The Commission’s “Spreader” Construction**

Even if this Court affirms the Commission’s “spreader” construction as “the portion of the slider that spreads apart the closure mechanism (zipper) to open the bag,” the record lacks substantial evidence to support the Commission’s determination of no infringement under that construction, and that determination should be reversed.

That the accused product has multiple parts as the “spreader” is no defense, even under the Commission’s construction that the

“spreader” be “the portion” of the slider. The phrase “the portion” does not imply only a single structure. Indeed, the context of the claim requires that the spreader have multiple pieces because the spreader must have a “channel therethrough.” (Appx175, claim 1.) A channel must somehow divide something into at least two parts to create the “channel.” Thus, to say that the spreader is the “portion of the slider that spreads apart” the profiles does not require that the spreader be one solid piece. Indeed, it could not be and still have a “channel therethrough.” Even under the Commission’s construction, the “portion” must allow for multiple pieces. This becomes even more obvious when considering the preferred embodiment in which the “spreader” constitutes *at least* two pieces—flanges 31, 33—and is consistently shown in the figures as also including finger 32.

Moreover, nothing in the specification requires the “portion of the slider that spreads apart” the profiles to *only* spread part the profiles. Again, the opposite is true. The ’443 patent discloses that the flanges 31, 33—the preferred “portion of the slider that spreads apart” the profiles—also performs a closing function in connection with Figure 6b. (*See supra* pages 11-14; Appx175, 8:4-8.) To hold

otherwise would be to read the preferred embodiment out of the claim, and that is “rarely, if ever, correct.” *Vitronics*, 90 F.3d at 1583.

Applying the Commission’s construction to the evidence at trial demonstrates that the determination of non-infringement is not supported by substantial evidence. After rejecting Presto’s proposed construction, the entirety of the Commission’s non-infringement analysis under its construction is as follows:

[T]he rectangular portions identified by Presto are not part of the spreader, but instead are analogous to the ribs identified in the ’443 patent. The specification discloses ribs that function to force the zipper together. ([’443 patent] at 5:47-50.) Similarly, the evidence shows that the rectangular portions identified by Presto force the closure profiles together—they are not part of the spreader.

(Appx63.)

That analysis is insufficient under the “substantial evidence” standard. Even in the sole snippet of testimony cited in the ID, Mr. Shields acknowledged that the “ribs” of the accused sliders guide the flanges of the zipper through the channel. (Appx1143-1144, 153:24-154:1.) And, importantly, that testimony pertained only to the closing function of those ribs. The Commission failed to address

the testimony of the very same expert acknowledging that, just like in the preferred embodiment, the “ribs” of the accused slider bags also guide the zipper to the central wedge when the slider is moved to open the zipper. (Appx1141, 151:3-10; Appx1148-1149, 158:23-159:3; Appx1151, 161:14-24.)

Additionally, the Commission included *no discussion* of any of the evidence that the flanges 31, 33 of the patented spreader *additionally* perform a closing function, and that closing functionality does not preclude them from being part of the spreader. (Appx175, 8:4-8; Appx1036, 44:12-18; Appx1083-1084, 93:25-94:6; Appx1090, 100:1-13; Appx1141, 151:3-10; Appx1148-1149, 158:23-159:3; Appx1151, 161:14-24; Appx904, Q188.) Nor is there any discussion of the un rebutted testimony that flanges 31, 33 are, in some embodiments, *also* analogous to the ribs in the accused product. (Appx904, Q188; Appx1036, 44:12-18; Appx1083-1084, 93:25-94:6; Appx1090, 100:1-13; Appx993, Q211) (“In other words, the spreader includes two angled wedges separated by a channel, with a middle portion positioned between the two angled wedges. If that is now [Presto’s expert, Dr. Reinholtz’ s] construction, *then I do not disagree that the Presto sliders have a*

*spreader having a channel therethrough, as those terms are properly construed.”*); Appx1148-1149, 158:23-159:3 (Mr. Shields’ admission that flanges 31, 33 close the bag in one direction and open them in another); Appx1151, 161:14-24 (same).) Mr. Shields likewise acknowledged that nothing in the claim language prohibits the presence of a separator in the channel. (Appx1136, 146:14-16.)

The failure to even acknowledge, let alone credit, the teachings of the patent itself, along with the testimony of both experts, is precisely the type of error this Court found reversible in *Whitmore v. Dept. of Labor*. 680 F.3d 1353 (Fed. Cir. 2012). In that case, the ALJ’s decision failed to discuss “considerable evidentiary support” in the record, even though the plaintiff’s theory of retaliation for whistleblowing was “admittedly elaborate.” *Id.* at 1375 (“This admittedly elaborate theory finds considerable evidentiary support in the record, and yet virtually none of the key evidence is acknowledged or alluded to—let alone discussed—in the ALJ’s decision.”). In vacating the judgment, this Court criticized the manner in which the decision “ignores or overlooks essentially all of the evidence offered [to the contrary], and provides no explanation for why such evidence was inappropriate for consideration,

unpersuasive, or otherwise not entitled to any weight.” *Id.* at 1376. This Court concluded that “[a]ny determination by an AJ that is based on findings made in the abstract and independent of the evidence which fairly detracts from his or her conclusions is unreasonable and, as such, is not supported by substantial evidence.” *Id.*

Here, the Commission ignored “essentially all of the evidence offered [to the contrary], and provides no explanation for why such evidence was inappropriate for consideration, unpersuasive, or otherwise not entitled to any weight” concerning the triangular wedge and the ribs of the accused product. *Id.* Just as forbidden in *Whitmore*, the Commission neither “acknowledged or alluded to—let alone discussed” (*id.*) the evidence that the wedge and ribs of the accused product constitute “the portion of the slider that spreads apart the closure mechanism (zipper) to open the bag” in exactly the same way that flanges 31, 33 and separator 32 of the ’443 patent constitute “the portion of the slider that spreads apart the closure mechanism (zipper) to open the bag.”

Because substantial evidence does not support the Commission’s finding, even under the Commission’s construction,

the determination of non-infringement of the '443 patent should be reversed.

### **III. Respondents Violated The Tariff Act In Relation To The '002 Patent**

#### **A. The Commission Erred In Equating “Hook Length” With The Length Of The Slider And Importing Extraneous Limitations Into The Claim**

The Commission made compound errors in its analysis of the claim of the '002 patent. *First*, there was no logical reason, based on the claim itself, the specification or the prosecution history, that the claimed phrase “*engagement surface extending the hook length*” should mean engagement surface extending the *slider* length, or that there can only be one hook per side of the slider. Yet, that is exactly how the Commission interpreted the claim. It did so by introducing the concepts of continuities and shoulders, though those terms are *never used anywhere in the patent* to describe the hook construction of the slider. *Second*, the *only* basis for that reinterpretation was a characterization in the prosecution history of a prior art reference. But, it is black letter law that disavowal of claim scope based on arguments to the PTO must be “clear and unmistakable.” Here, even the ALJ himself admitted confusion at

trial over the prosecution history. Properly construed, the limitation “engagement surface extending the hook length” means “the engagement surface extends the length of the ‘hook construction.’”

**1. The Claim Language Itself Clearly Supports Presto’s Construction, While The Commission’s Construction Imports Multiple Additional Limitations**

In construing the claims, the Court begins with the words of the claims themselves. *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001). The relevant claim language (identically for the “first” and “second” hook constructions) is:

a first hook construction depending from said top wall, said first hook construction having:

(A) a first end opposite said top wall, the first end defining a hook length;

(B) [...]

(C) a first engagement surface to engage said first closure profile, **the first engagement surface extending the hook length;**

(Appx151, Appx152, Appx153.)

Based on the claims alone, it is apparent that (a) the end of the hook construction opposite the top wall (*i.e.*, the bottom end)



defines a length, and (b) the engagement surface extends that length. Based simply on the claims, the simple construction proposed by Presto fits: “engagement surface extending the hook length” means “the engagement surface extends the length of the ‘hook construction.’” Moreover, nothing in the language of the claim requires that there be only one hook construction per side of the wall from which they depend. To the contrary, the claim speaks of multiple hook constructions.

Compare that straightforward construction to the Commission’s construction: “each ‘engagement surface’ must extend continuously along the entire ‘hook length’ of the ‘hook construction’ without discontinuities, ribs or shoulders of the kind disclosed in the prior art Porchia ’285 patent and where the ‘hook length’ is the length of the ‘hook construction’ opposite the top wall.” (Appx39.) The Commission’s construction incorporates the following concepts not found in the claim themselves: “must extend continuously,” “without discontinuities, ribs or shoulders of the kind disclosed in the prior art Porchia ’285 patent.” Additionally, the Commission noted that its construction required that “the

entire continuous length of the hook construction [is] simply the length of the slider.” (*Id.*)

None of the additional limitations of the Commission’s construction is found in the claims, so it must have imported those limitations from either the specification or the prosecution history.

## **2. The Specification Does Not Support The Commission’s Additional Limitations Either**

There is no basis in the specification for adding any of the extraneous limitations of the Commission’s construction.

*First*, equating the “hook length” to the “length of the slider” would read out the preferred, indeed *only* embodiment, disclosed in the specification. Such a construction is presumptively incorrect. *Vitronics*, 90 F.3d at 1583 (construction that reads out preferred embodiment “is rarely, if ever, correct and would require highly persuasive evidentiary support”). The figures of the patent, examples of which are shown below, show that the hook constructions 76, 78 are decidedly *different from* and *less than* the length of the entire slider:

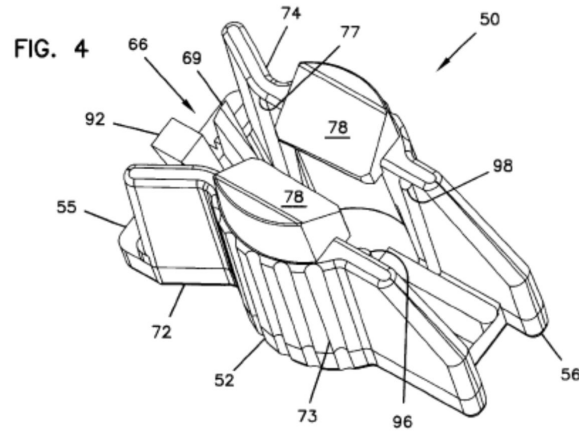
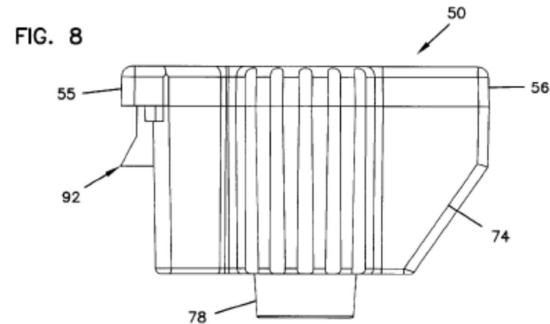
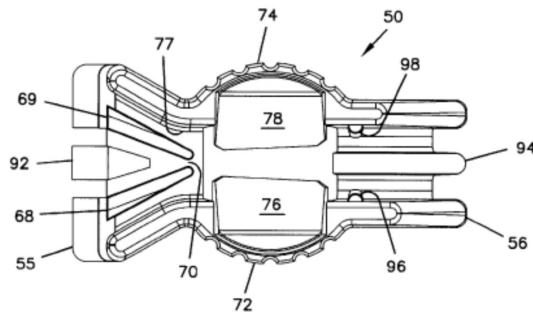


FIG. 5



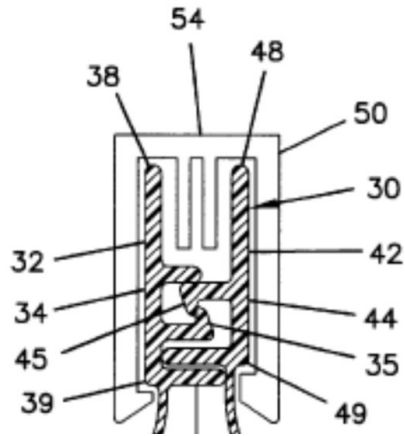
(Appx137, Appx139.)

*Second*, the notion of “discontinuities, ribs or shoulders,” also introduced by the Commission, is similarly created from whole

cloth. The word “discontinuities,” or for that matter, “discontinuity” or “discontinuous,” does not appear *anywhere* in the patent.

The only references to “continuous” have nothing to do with the hook constructions. Once is in reference to the features of the *bag* (Appx147, 5:10-11), and twice in reference to the *height* (not *length*) of the slider in connection vertical components of tabs 262, 264 and wings 362, 364 shown in Figures 11 and 12. (Appx150, 11:66-12:11.) Similarly, there is nothing in the claim language or specification that teaches there can only be one hook construction per side of the wall in question. To the contrary, the language of the claim simply requires a first and second hook construction without prohibiting more, and without stating from which side of the wall they must depend.

Finally, the word “shoulder” is also *never* used to describe the hook construction. Instead, it refers throughout the patent (and in claim 7) to the shoulder of the closure profiles 39, 49, as shown here in Figure 2:



(Appx136.)

Accordingly, the Commission’s importation of those concepts lacks the “persuasive evidentiary support” necessary to read out the preferred embodiment—indeed, it lacks *any* evidentiary support.

See *Vitronics*, 90 F.3d at 1583.

### **3. The Commission’s Additional Limitations Are Not Supported By The Ambiguous And Confusing Prosecution History**

The Commission’s entire prolix claim construction came about as a result of a confusing and unclear prosecution history. This Court has recognized “because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes.” *Phillips*, 415 F.3d at 1317. “This court has often stated

that prosecution history limits claim meaning when an applicant ‘clearly and unmistakably’ disclaims claim scope or meaning.”

*Grober v. Mako Prods.*, 686 F.3d 1335, 1342 (Fed. Cir. 2012)

(citations omitted). “Therefore, the doctrine of prosecution disclaimer *only* applies to unambiguous disavowals.” *Id.* at 1341 (emphasis added).

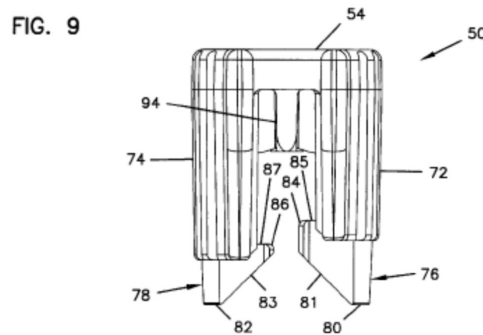
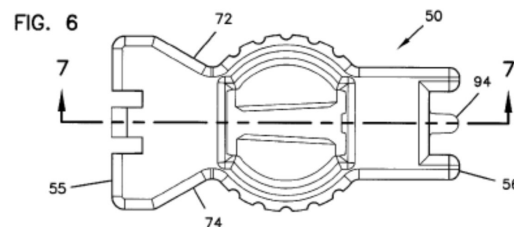
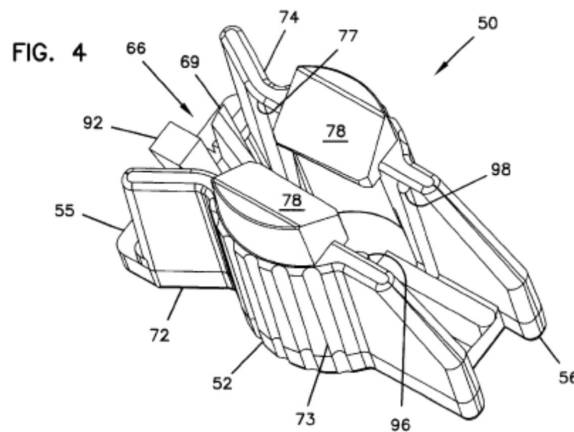
Here, the Commission’s construction depends *entirely* on prosecution disclaimer. During prosecution, the Examiner alleged that Porchia “discloses the claimed invention except for the first and second deflection surfaces (at the bottom of first and second hook constructions 21a, 22a) having an angle of about 40 to 50 degrees from the top wall.” (Appx539-540.) He rejected the relevant claims as obvious under 35 U.S.C. § 103(a) on the grounds that the selection of the 40 to 50 degree angle was “an obvious design choice.” (Appx540.)

Presto amended the claims to recite that each hook construction has an end “defining a hook length” and “the [] engagement surface extending the hook length.” (Appx556-557.)

Presto explained:

Claims 1, 13 and 24 have been amended to further clarify the structure of the hook construction. Each hook construction has a deflection surface that extends the length of the hook construction. See for examples, FIGS. 4 and 6, which illustrate hook constructions 76, 78, and FIG. 9, which illustrates hook constructions 76, 78 and deflection surfaces 81, 83.

(Appx552.) Figures 4, 6 and 9 are shown here:

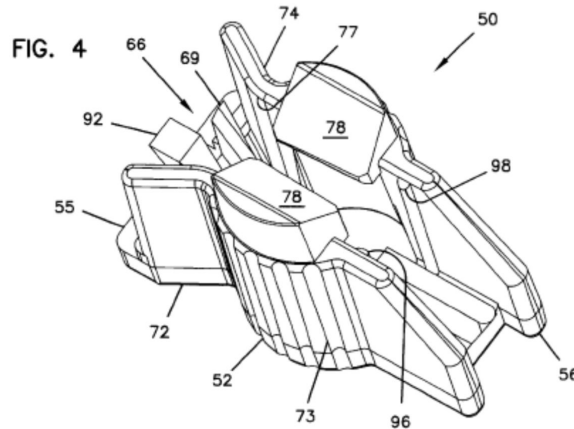


(Appx137, Appx139.) No mention was made of any “discontinuities, ribs or shoulders.” Additionally, it is clear that the length of the hook constructions 76, 78 are not, and never were, intended to coincide with the length of the entire slider.

Based solely on Presto’s statements at this point of the prosecution, Presto had not disclaimed *anything*, let alone done so either clearly, unambiguously or unmistakably.

Later in the same response to the PTO, Presto addressed Porchia directly, and from here the Commission finds its “unmistakable” disavowal of subject matter. Presto restated its earlier remarks about clarifying the hook construction, only this time Presto said, “[t]he hook construction has a length, and the deflection surface extends *continuously* along the entire length of the hook construction.” (Appx554) (emphasis added). But, saying “*continuously* along the entire length of the hook construction” could not have unmistakably disavowed anything. Presto stated exactly what was disclosed throughout every drawing in the patent and consistently shown in all of its examples—the angled deflection surface *does* extend continuously along the entire length of each hook construction 78, precisely as shown below in Figure 4:





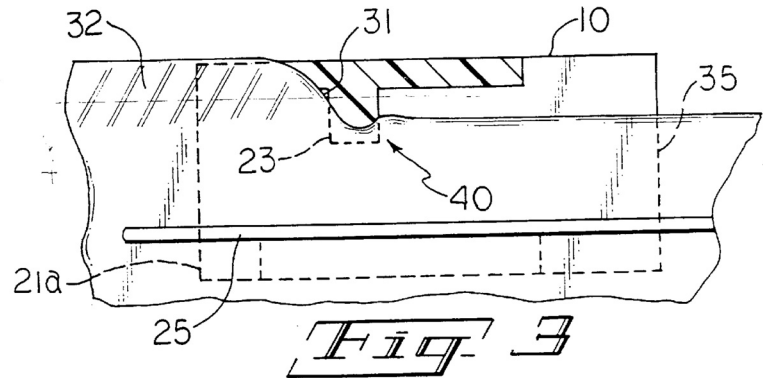
(Appx137.) Likewise, those statements do not in any way preclude the use of multiple hook constructions.

Failing to hinge any “unmistakable” disavowal on that passage, the Commission turned to the next passage. Except *that* passage was also not an “unmistakable” disavowal. Based on the testimony at trial (including questions from the ALJ himself), the prosecution history was *unmistakably ambiguous*.

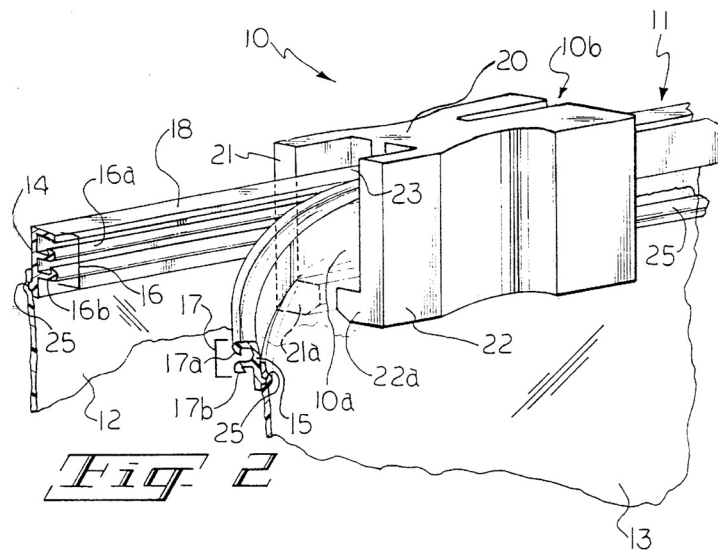
The central passage of prosecution history relied on by the Commission is:

Referring to Fig. 3 in Porchia, the cross-sectional view of the slider shows that the shoulders (only shoulder 21a being shown) are not-continuous along the length; rather, two, discontinuous shoulders exist.

(Appx554.) Figure 3 of Porchia (the only figure referenced by Presto in that statement) is shown here:



(Appx913.) Figure 2, though not referenced directly, shows a perspective view of Figure 3:



(Appx912.)

It's nearly impossible to know what exactly Presto might have given up, if anything, with its statement. While true that Porchia seemed to have two discontinuous shoulders, that statement is neither here nor there. Porchia's slider construction has a concavity, *i.e.*, the slider side walls are pinched towards the middle.

(*See id.*, Figure 2.) That architecture would make it difficult (although theoretically not impossible) to have a single shoulder extend from one end of the slider to the other. Rather, that concavity seems to interrupt the shoulders to create separate hook constructions on either end. But so what? Pointing that fact out does not “unmistakably” suggest anything about the scope of Presto’s claims, which, after all, relate to the length of the “hook construction” itself, not the entire slider.

Furthermore, Presto could not have differentiated its claims *solely* on the new issue of “discontinuous” shoulders in Porchia. Despite the perspective view in Figure 2, Porchia itself identifies that slider embodiments could be “continuous” or “discontinuous.” In fact, Respondents’ expert opined that Presto had disclaimed discontinuous hook constructions precisely because he read Porchia as showing *only* discontinuous shoulders:

Q. Yeah, the '285 Porchia patent teaches the shoulders can be continuous or discontinuous, correct?

A. I know they teach discontinuous. I don’t recall whether they talk continuous.

Q. Okay. So that part of your reasoning as to why that distinction of Porchia goes to the

engagement length is your belief that Porchia *only* teaches discontinuous shoulders?

A. Yes.

(Appx1165, 175:13-22.) He was wrong. Porchia states, “[t]he shoulders *can be continuous* or intermittent along the length of the slider.” (Appx915, 4:63-64) (emphasis added).

The confusion around that passage in the prosecution history was certainly palpable to Presto’s technical expert, who testified that the statement was “pretty unclear” and “ambiguous,” in part because it was unclear what “length” Presto was referring to in that passage. (Appx1081, 91:10-17.)

Most telling of all, however, the ALJ *himself* voiced his confusion over the reference in that prosecution history passage to “shoulders,” in part because “shoulders” are not an element of the claims. This colloquy between the ALJ and Respondents’ own expert demonstrates the confusion over that passage:

JUDGE ESSEX: Let me ask you a question while we’re on this. You explained in very simple terms the difference between the hooks and shoulders. I’m not sure I know the difference.

Do all hooks have shoulders, or do some shoulders become hooks, or what is the difference?

WITNESS: The hook is defined as keeping the slider mechanism on the top of the bag so it doesn't fall off. Once it's inserted on top of the bag, the hooks become engaged underneath the profile, the zipper profiles, to stop it from pulling off.

JUDGE ESSEX: All right. What's a shoulder?

WITNESS: It depends on how it's defined. *I don't know in this context what the shoulder is, but the hook is defined as that.*

JUDGE ESSEX: *I'm glad you don't know. That makes me feel better.*

(Appx1198-1199, 208:24-209:15) (emphasis added).

There is good reason for this shared confusion. First, the statement refers to a view that "shows...shoulders" (plural) while immediately saying parenthetically that "only" one of those "shoulders" is shown. The passage ambiguously states that the figure shows multiple and only one shoulder simultaneously. Second, if in fact "only shoulder 21a" is shown, how then can it possibly show two "discontinuous" shoulders? No wonder neither the experts nor the ALJ could determine exactly *what* the applicant was trying to say. Such is not the type of "clear and unmistakable" language required by this Court to disavow claim scope.

None of the intrinsic evidence supports any of the extraneous limitations imported into the claim by the Commission. The proper construction of the term “engagement surface extending the hook length” is “the engagement surface extends the length of the ‘hook construction.’”

**B. The Accused Slider Infringes Claim 1**

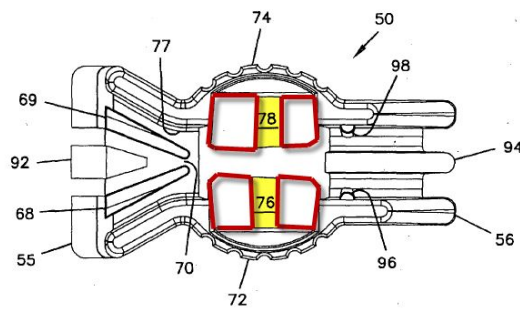
Properly construed, the accused slider meets both disputed elements. It literally has an “engagement surface extending the hook length,” and it contains the equivalent of a “deflection surface positioned on an internal surface of said first hook construction at said first end and positioned at an angle of about 40 to 50 degrees from said top wall.”

**1. The Accused Slider Literally Meets The Engagement Surface Limitation**

Properly construed, the '002 patent requires that “the engagement surface extends the length of the ‘hook construction.’” The accused slider meets that limitation.

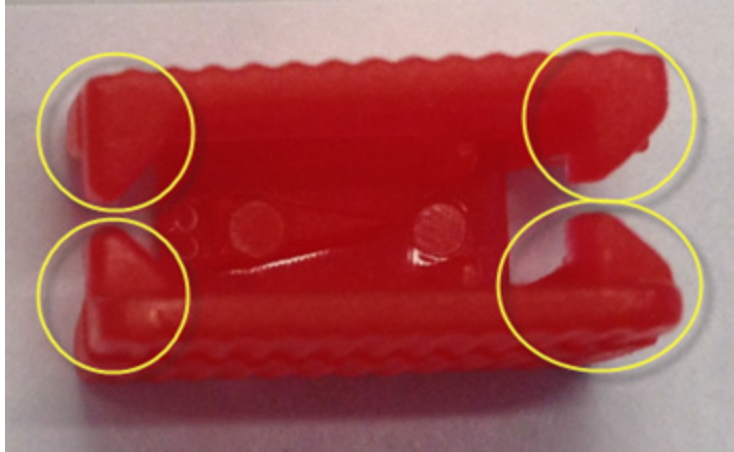
Respondents’ expert was presented with a hypothetical slider, based on the slider disclosed in the patent, in which the slider had multiple hook constructions on each side, *i.e.*, whereby the yellow

rectangle below is carved out of the preferred embodiment such that hooks 78 and 76 are separated into the two outlined red structures. (Appx1161-1162, 171:18-172:21.)



With this hypothetical in mind, Respondents' expert admitted that this hypothetical slider would have four total hook constructions. (Appx1162, 172:4-8.) Critically, he also confirmed that each of these four hook constructions would have engagement surfaces that extend the length of the hook constructions—just like in explicit claim language. (Appx1162, 172:14-21.)

The accused sliders *also* have multiple hook constructions—just like the hypothetical slider that Respondents' expert admitted the claim reads on. On the other side of each circled element below is an engagement surface that extends the length of the circled hook structures. (Appx890, Q119; Appx1091-1093, 101:12-103:6.)



(Appx888.) Respondents' expert does not dispute that feature under the proper construction. Instead, Respondents' entire analysis is grounded in the belief that the hook construction must be continuous. (Appx971-972.) Since that claim construction is wrong, the evidence of infringement under the proper claim construction is undisputed.

## **2. The Accused Slider Meets The Deflection Surface Limitation Under The Doctrine Of Equivalents**

Presto asserted that the accused slider infringed claim 1 of the '002 patent under the doctrine of equivalents. While Presto presented detailed evidence of insubstantial differences and elicited its expert's opinion on function-way-result, Respondents countered with nothing of their own. Instead, Respondents' *entire* defense was based on prosecution history estoppel. Respondents produced no technical evidence on equivalence at all. However, the Commission



erred in finding prosecution history estoppel because the accused equivalent was never disclaimed in the prosecution history. If prosecution history estoppel does not apply, the evidence of equivalence under the proper claim construction is un rebutted, and the finding of no infringement should be reversed.

**a. Respondents Presented No Evidence On Equivalence**

Presto presented direct evidence of the equivalence of the deflection surfaces of the accused product (angled to the rear wall) with the deflection surfaces of the claims (angled to the top wall). The accused product includes deflection surfaces angled at 45 degrees, except that the angle is to the *rear* wall instead of the top wall.



(Appx. 888.) Both experts agreed that the angled surfaces are deflection surfaces to facilitate mounting of the sliders on the track. (Appx1051, 59:10-12; Appx1159, 169:6-16.) In the accused product, the sliders are mounted at a forward angle to the track, *i.e.*, front end first. (Appx1094, 104:6-16.) In the patent, the slider is mounted directly over the track. In both cases, the angled surfaces on the leading edge of slider deflect the slider walls apart and mount the slider over the track. (*Id.*; Appx888-890, Q114-17; Appx1159, 169:6-23.) Presto's expert testified that both sliders had substantially the same function, worked substantially the same way, and achieved substantially the same result. (*Id.*)

Respondents' witnesses (including its expert) never contradicted that testimony or offered any competing technical analysis of equivalence. In fact, Respondents' expert confirmed that in both the accused product and patented slider, the angled surfaces that initially touch the track are for the purpose of mounting the slider. (Appx1159, 169:6-23.) He offered no other testimony on equivalence. (Appx968-969, Q149) (no infringement under the doctrine of equivalents because Presto allegedly relied on the angle specifically to the top wall to gain allowance).

Presto's evidence on the fact issue of equivalence was un rebutted.

**b. Prosecution History Estoppel Does Not Apply To The "Top Wall" Limitation**

The Commission held "Presto is barred under prosecution history estoppel from capturing equivalence of [the angled to the top wall] limitation because of arguments made during prosecution." (Appx60.) But, any reading of the prosecution history demonstrates the fallacy of that argument. The cited art—both the '701 patent and Porchia—showed angled surfaces *to the top wall*. So, Presto could not have relied on the angle being *to the top wall* to secure

allowance; that orientation was already in the cited art. Rather, the prosecution history demonstrates that the cited art failed to show *the angle* of the surfaces, or that the surfaces acted as deflection surfaces. When Presto emphasized that the cited art did not have deflection surfaces “positioned at an angle of 40 to 50 degrees from the top wall” (Appx553-555), it was emphasizing the lack of any specific angle (or even range of angles) disclosed in the cited art, not the orientation. To read otherwise would make no sense.

Prosecution history estoppel can arise in two circumstances: (1) when a narrowing amendment is made related patentability (amendment-based estoppel), or (2) when an argument is made for patentability that disavows claim scope (argument-based estoppel). *Festo Corp. v. Shoketu Kinzoku Kogyo Kabushiki Co., Ltd.*, 535 U.S. 722, 736 (2002) (amendment based); *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1324 (Fed. Cir. 2003) (argument based). Here, “positioned at an angle of about 40 to 50 degrees from the top wall” was in the original claim and never amended. (Appx557.) Therefore, any estoppel in this case must be argument-based estoppel.

This Court has consistently held that argument based estoppel *must be* “clear and unmistakable.” *Omega*, 334 F.3d at 1326 (“Consequently, for prosecution disclaimer to attach, our precedent requires that the alleged disavowing actions or statements made during prosecution be both clear and unmistakable.”) In fact, that same standard that applies against using ambiguous statements in the prosecution history in claim construction also applies to prosecution history estoppel. *Id.* at 1326 n.1 (“We note that this is the same standard applicable, in the context of the doctrine of equivalents, to the doctrine of argument-based estoppel.”) (citations omitted).

Under the exacting “clear and unmistakable” standard for amendment-based estoppel, the Commission’s analysis falls apart. *First*, Presto never differentiated its claims from the cited art on the basis of orientation. Even Respondents’ experts conceded as much. (Appx1157-1158, 167:16-168:15.) Every statement made in Presto’s office action response focused on the “deflection” feature and the failure of the cited art to disclose any angle at all. Presto stated:

There is no claim in the '701 patent that recited a deflection surface or similar structure on the slider device. Still further, there is no

claim in the '701 patent that recites a deflection surface positioned at any angle, much less at an angle of 40 to 50 degrees, from the top wall. As stated above, there is no recitation of even having a deflection surface.

(Appx553.) The focus in that statement is plainly on the absence of a deflection surface, and the absence of the recitation of *any* angle. The reference to the top wall is exemplary of the broader point, *i.e.*, “a deflection surface positioned at any angle, *much less* at an angle of 40 to 50 degrees, from the top wall.” (*Id.*) That passage cannot be fairly read as a clear and unmistakable disavowal of an orientation related to the top wall. The top wall reference merely provided context.

Presto stated later in the same response:

In addition, there is no suggestion in the Porchia patent to have deflection surfaces positioned at an angle of 40 to 50 to the top wall. The Porchia patent merely illustrates, in its figures, surfaces angled to the top wall. There is no discussion regarding the use of such surfaces.

(Appx554.) This statement even more clearly shows that the point of distinction had nothing to do with the top wall. Presto affirmatively *admits to* the cited art having surfaces oriented to the top wall. Its

differentiation, therefore, is based on Porchia's complete silence as to the *use* and *angle* of those surfaces, not the orientation.

*Second*, "[t]he touchstone of prosecution history estoppel is that a patentee [may not] reclaim through the doctrine of equivalents what was surrendered to obtain the patent." *Loral Fairchild Corp. v. Sony Corp.*, 181 F.3d 1313, 1322 (Fed. Cir. 1999). But here, Presto never surrendered *any* orientation, and certainly not the orientation of the accused products, *i.e.*, orientation towards the rear wall. In other words, the purpose of prosecution history estoppel would be to prevent Presto from reclaiming the feature of the accused product it had disavowed, namely, orientation to the rear wall. There is nowhere *anywhere in the prosecution history* where Presto disavowed orientation to the rear wall. By asserting equivalence against a rear wall orientation, Presto is not attempting to "reclaim" *anything*.

The Commission's arguments are illogical. It asserts (wrongly based on the evidence above) that Presto required orientation to the top wall. Yet all of the prosecution history shows the cited art already had orientation to the top wall. The Commission never explains, therefore, how affirmatively stating that Presto's claims

require a feature that was already shown could possibly amount to a disavowal or disclaimer of anything. Clearly, Presto could not have disavowed orientation. It must have been arguing over something else. And indeed, it was. Presto argued about the “deflection” surface and the angle, *not the orientation*.

Application of prosecution history estoppel is an issue of law reviewed *de novo*. *Bose Corp. v. JBL, Inc.*, 274 F.3d 1354, 1358 (Fed. Cir. 2001). Once the prosecution history estoppel argument falls away, there is left only unrebutted evidence of infringement under the doctrine of equivalents. Thus, this Court should reverse the Commission’s finding of non-infringement of the ’002 patent.

**C. The Presto Slider Satisfies The Technical Prong Of The Domestic Industry Requirement**

The Commission erroneously found that a deflection surface on Presto’s domestic slider having an angle of about 29 degrees did not meet the “about 40 to 50 degrees” limitation. The Commission also found that Presto’s domestic industry slider did not meet the hook length limitation, albeit under an erroneous claim construction. Neither finding is supported by substantial evidence.



Presto needed to show by a preponderance of the evidence that its domestic industry slider reads on a claim of the '002 patent. That test is the same as the test for infringement. *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1375 (Fed. Cir. 2003).

**1. Presto's Domestic Product Met The "About 40 to 50 Degrees" Limitation**

The Commission erred in two respects in regards to the "about 40 to 50 degrees" limitation. First, it improperly construed "about 40 to 50 degrees" by not giving proper effect to the word "about" in the context of this invention. That error led it to ignore evidence that the limitation was literally met by an angle of 29 degrees. Second, the Commission improperly applied prosecution history estoppel to limit "about 40 to 50 degrees" by, essentially, removing the word "about" from the claims. Because no disclaimer of any range of angles occurred, the Commission's judgment should be reversed.

**a. The Commission Erred In Excluding A 29 Degree Deflection Surface From “About 40 Degrees”**

Presto’s expert testified that a 29 degree deflection surface is, given the teaching of the patent, literally “about 40 degrees.”

(Appx883-884, Q93.) Presto’s expert testified that

by using the word “about” when describing 40 degrees [the inventors] mean to include angles that are about 30 degrees, because such angles are disclosed in the patent specification as accomplishing the goal of facilitating application of the slider onto the zipper during manufacture.

(Appx895-896, Q152.)

That “about 40 degrees” can encompass a 29 degree angle is fully consistent with this Court’s guidance on construing the word “about.” *Cohesive Tech., Inc. v. Water Corp.*, 543 F.3d 1351 (Fed. Cir. 2008) is instructive. There, this Court considered the scope of “about 30  $\mu\text{m}$ ” when the specification had indicated that 20  $\mu\text{m}$  and 50  $\mu\text{m}$  had been outer limits that were unacceptable. *Cohesive*, 543 F.3d at 1368-69.

This Court articulated the proper framework for considering the scope of the word “about” in a claim:

When “about” is used as part of a numeric range, “the use of the word ‘about,’ avoids a strict numerical boundary to the specified parameter. Its range must be interpreted in its technologic and stylistic context.” [*Pall Corp. v. Micron Separations, Inc.*, 66 F.3d 1211, 1217 (Fed. Cir. 1995).] In determining how far beyond the claimed range the term “about” extends the claim, “[w]e must focus ... on the criticality of the [numerical limitation]<sup>11</sup> to the invention.” *Ortho-McNeil Pharm., Inc. v. Caraco Pharm. Labs., Ltd.*, 476 F.3d 1321, 1327 (Fed. Cir. 2007). In other words, we must look to the purpose that the “about 30  $\mu\text{m}$ ” limitation serves, to determine how much smaller than 30  $\mu\text{m}$  the average particle diameter can be and still serve that purpose. To be clear, it is the purpose of the *limitation* in the claimed invention—not the purpose of the invention itself—that is relevant. Thus, we ask what function the “about 30  $\mu\text{m}$ ” low-end limit on particle size plays in the operation of the claimed apparatus and method.

*Id.* at 1368 (emphasis in original). This Court determined, based on the disclosed examples in the specification and the observed variance in the measurement data, that “about 30  $\mu\text{m}$ ” could be as low as 23.044  $\mu\text{m}$ , as long as it met the function described in the patent. *Id.* at 1370.

Similarly here, the patent claims “about 40 to 50 degrees,” but states also that the same function could be achieved at “about 30 to

---

<sup>11</sup> Brackets in original.

60 degrees.” (Appx148, 8:15-20.) Presto’s expert explained how an angle of 29 degrees performed the same function called for in the patent, and therefore fell within the “about” limitation. (Appx883-884, Q93; Appx895-896, Q152.) Respondents’ expert countered only with an obvious, but ultimately irrelevant mathematical calculation: 29 degrees cannot be “about 40 degrees” because it “is only about two-thirds, or 67-72%” of the claimed angle. (Appx975, Q165.) Reliance on that mere mathematical fact is misplaced given the explicit teaching of the patent regarding the appropriate range. Indeed, in *Cohesive*, the claimed limitation was met at virtually the same ratio ( $23.044/30=76.8\%$ ). More importantly, Respondents’ expert’s analysis ignores this Court’s requirement that construing “about” requires a look to the “purpose of the *limitation* in the claimed invention.” *Cohesive*, 543 F.3d at 1368.

Properly construed, “about 40 to 50 degrees” includes angles as low as about 30 degrees, *i.e.*, 29 degrees.

**b. Presto Did Not Surrender Any Ranges Outside Of “About 40 To 50 Degrees”**

The limitation “about 40 to 50 degrees” was never narrowed at any point during the prosecution history. Nevertheless, the

Commission determined that Presto could not reach an angle as low as about 30 degrees. The Commission's argument depends on argument-based estoppel, but critically fails the "clear and unmistakable" threshold it needs to make that argument.

Presto differentiated its claims from Porchia based on Porchia's silence as to *any* angle, not some range of angles outside of "about 40 to 50 degrees." The Commission cites to the statement by Presto that "[t]he Porchia patent is lacking, at least, any suggestion of continuous hook constructions having a deflection surface position at 40 to 50 degrees. Withdrawal of this rejection is requested." (Appx43.) That statement, however, is the closing statement in Presto's arguments over Porchia, in which it distinguished Porchia based on, among other things, the hook constructions, the lack of any angles disclosed, and the lack of any discussion of deflection surfaces. *See supra* Arguments, Part III.A.3 (discussing Presto's statements in the prosecution history). And, as discussed earlier, those statements were already rife with ambiguity. (*Id.*) When Presto summarized the allowability of its claims (which always included the limitation of "about 40 to 50 degrees"), it was not making a new argument for the first time about

the precise angles. The complete context shows Presto *never* differentiated Porchia on the basis of specific angles. (*Id.*) It certainly never did so clearly and unmistakably. Therefore, the Commission erred in applying prosecution history estoppel to the “about 40 to 50 degree” limitation.

Application of prosecution history estoppel to unduly restrict the “about 40 to 50 degrees” limitation was error. Properly construed, and considered in light of this Court’s instructions in *Cohesive*, Presto’s domestic slider having a 29 degree deflection surface met the “about 40 to 50 degree” limitation. Accordingly, the Commission’s finding of no domestic industry based on the “about 40 to 50 degrees” limitation cannot stand.

## **2. Presto’s Domestic Industry Product Satisfies The Hook Length Limitation**

As discussed *supra*, Arguments, Part III.A, the phrase “engagement surface extending the hook length” means “the engagement surface extends the length of the ‘hook construction.’” The Commission’s determination that Presto’s domestic slider did not meet this limitation was based entirely on its tortured claim construction, discredited above. In fact, Respondents’ argument is

identical to its argument for non-infringement on its own slider, namely, that the limitation is not met because the hook has to be continuous extending the length of the slider. (Appx1166-1167, 176:23-177:6.) The domestic product, however, has hook constructions similar to the hook constructions of the accused slider, and meet the claims for the same reason (Appx898, Q156.) Additionally, the domestic slider is analogous to the hypothetical slider Respondents' expert conceded meets the claim limitation. (Appx1162, 172:14-21.) If the claim is properly construed, this limitation is met in Presto's domestic product.

### **CONCLUSION**

The Commission misapplied the doctrines of prosecution history disclaimer and estoppel to narrow the scope of the claims and it compounded its error by failing to address un rebutted evidence of infringement. Additionally, had the Commission followed this Court's guidance on construing the word "about," it would have found that Presto satisfied the technical prong of the domestic industry requirement. The Commission made numerous and substantial errors in this case, and this Court should reverse

the Commission's finding of no violation on both the '443 and '002 patents.

Respectfully submitted,

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# **ADDENDUM**

## **TABLE OF CONTENTS**

| <b>Description</b>  | <b>Addendum Page</b> |
|---|----------------------|
| Notice of a Commission<br>Determination to Review-in-<br>Part an Initial Determination<br>Finding No Violation of<br>Section 337; On Review, to<br>Modify-in-Part the Initial<br>Determination and to Take No<br>Position on One Issue;<br>Affirmance of the Finding of<br>No Violation and Termination<br>of the Investigation | Appx0001-4           |
| Administrative Law Judge<br>Theodore R. Essex's Final<br>Initial Determination  | Appx0005-107         |
| U.S. Patent No. 6,524,002<br>(JX-0002)  | Appx0132-155         |
| U.S. Patent No. 7,311,443<br>(JX-0003)  | Appx0156-177         |

**UNITED STATES INTERNATIONAL TRADE COMMISSION  
Washington, D.C.**

**In the Matter of**

**CERTAIN RESEALABLE PACKAGES  
WITH SLIDER DEVICES**

**Investigation No. 337-TA-962**

**NOTICE OF A COMMISSION DETERMINATION TO REVIEW-IN-PART AN INITIAL  
DETERMINATION FINDING NO VIOLATION OF SECTION 337; ON REVIEW, TO  
MODIFY-IN-PART THE INITIAL DETERMINATION AND TO TAKE NO POSITION  
ON ONE ISSUE; AFFIRMANCE OF THE FINDING OF NO VIOLATION AND  
TERMINATION OF THE INVESTIGATION**

**AGENCY:** U.S. International Trade Commission.

**ACTION:** Notice.

**SUMMARY:** Notice is hereby given that the U.S. International Trade Commission has determined to review-in-part a final initial determination ("ID") of the presiding administrative law judge ("ALJ") finding no violation of section 337. On review, the Commission has determined to modify-in-part the ID and to take no position with respect to one issue. The Commission has also determined to affirm the ID's finding of no violation of section 337 and has terminated the investigation.

**FOR FURTHER INFORMATION CONTACT:** Clint Gerdine, Esq., Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 708-2310. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server at <https://www.usitc.gov>. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <https://edis.usitc.gov>. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205-1810.

**SUPPLEMENTARY INFORMATION:** The Commission instituted this investigation on July 20, 2015, based on a complaint filed on behalf of Reynolds Presto Products Inc. of Appleton, Wisconsin. 80 *Fed. Reg.* 42839-40. The complaint alleges violations of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, based upon the importation in the United States, the sale for importation, and the sale within the United States after importation of certain resealable packages with slider devices by reason of infringement of certain claims of U.S. Patent

Reexamination Certificate No. 6,427,421 and U.S. Patent Nos. 6,524,002 and 7,311,443. The complaint further alleges the existence of a domestic industry. The Commission's notice of investigation named Inteplast Group, Ltd. of Livingston, New Jersey and Minigrip, LLC of Alpharetta, Georgia as respondents. The Office of Unfair Import Investigations is participating in this investigation.

On March 14, 2016, the Commission issued notice of its determination not to review the ALJ's ID (Order No. 8) granting complainant's motion for summary determination that it has satisfied the economic prong of the domestic industry requirement under 19 U.S.C. §§ 1337(a)(3)(A) and (B) for all asserted patents.

On June 20, 2016, the ALJ issued his final ID finding no violation of section 337. The ALJ found that none of respondents' accused products infringe any of the asserted patents. He also found that the technical prong of the domestic industry requirement had been satisfied with respect to the '443 patent, but not with respect to the '421 or '002 patents. The ALJ also issued his recommended determination (RD) on remedy and bond. The ALJ recommended, in the event the Commission finds a violation, that both limited exclusion and cease and desist orders should issue against infringing products and each respondent.

On July 6, 2016, complainant and respondents each filed a petition for review of the final ID. On July 14, 2016, complainant, OUII, and respondents each filed a response to the opposing petition.

Having examined the record of this investigation including the ID, the parties' petitions for review, and the responses thereto, the Commission has determined to review-in-part the final ID. Specifically, the Commission has determined to review (1) the ID's finding of no invalidity of claim 1 of the '443 patent under 35 U.S.C. § 102(b); and (2) the ID's analysis regarding infringement of the '421 patent. The Commission has determined not to review the remainder of the final ID.

On review with respect to issue (1), the Commission determines to take no position on the ID's finding of no invalidity of claim 1 of the '443 patent under § 102(b). On review with respect to issue (2), the Commission modifies-in-part the final ID. Specifically, the Commission supplements the ID's finding of no infringement under the doctrine of equivalents of asserted claim 39 of the '421 patent with respect to the "feeding a zipper sheet" limitation (ID at 45-49) with the following:

Presto's doctrine of equivalents arguments are so broad that they read the limitation "releasably adhered" out of asserted claim 39. "Under the all elements rule, there can be no infringement under the doctrine of equivalents if even one limitation of a claim or its equivalent is not present in the accused device. . . . Thus, if a court determines that a finding of infringement under the doctrine of equivalents 'would entirely vitiate a particular claim[ed] element,' [as the case is here with respect to the "releasably adhered" limitation] then the court should rule that there is no infringement under the doctrine of

equivalents.” *Lockheed Martin Corp. v. Space Systems/Loral, Inc.*, 324 F.3d 1308, 1321 (Fed. Cir. 2003) (citations omitted).

The Commission therefore affirms the ID’s finding of no violation of section 337 and terminates the investigation.

The authority for the Commission’s determination is contained in section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, and in Part 210 of the Commission’s Rules of Practice and Procedure, 19 C.F.R. Part 210.

By order of the Commission.

A handwritten signature in black ink, appearing to read "Lisa R. Barton", with a stylized flourish at the end.

Lisa R. Barton  
Secretary to the Commission

Issued: August 19, 2016

**CERTAIN RESEALABLE PACKAGES WITH SLIDER  
DEVICES**

**Inv. No. 337-TA-962**

**PUBLIC CERTIFICATE OF SERVICE**

I, Lisa R. Barton, hereby certify that the attached **NOTICE** has been served by hand upon the Commission Investigative Attorney, Andrew Beverina, Esq., and the following parties as indicated, on **August 19, 2016**.



Lisa R. Barton, Secretary  
U.S. International Trade Commission  
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**On Behalf of Complainant Reynolds Presto Products Inc.:**

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- ☐ Via Hand Delivery
- ☐ Via Express Delivery
- ☒ Via First Class Mail
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**On Behalf of Respondents Inteplast Group, Ltd. and  
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- ☐ Via Hand Delivery
- ☐ Via Express Delivery
- ☒ Via First Class Mail
- ☐ Other: \_\_\_\_\_

PUBLIC VERSION

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

In the Matter of

CERTAIN RESEALABLE PACKAGES WITH  
SLIDER DEVICES

Inv. No. 337-TA-962

INITIAL DETERMINATION ON VIOLATION OF SECTION 337 AND  
RECOMMENDED DETERMINATION ON REMEDY AND BOND

Administrative Law Judge Theodore R. Essex

(June 20, 2016)

**Appearances:**

For the Complainants Reynolds Presto Products, Inc.:

Mark Davis, Esq. and P.J. McCarthy of Greenburg Traurig LLP of Washington, D.C.

Scott Bornstein, Esq., Rich Pettus, Esq., and Zahra Smith, Esq. of Greenber Traurig of New York, New York

For the Respondents Intoplast Group, Ltd. and Minigrip LLC:

Mark L Hogge, Esq., Shailendra K. Maheshwari, Esq., Nicholas H. Jackson, Esq., Carl P. Bretscher, Esq. and Derek Auito, Esq. of Dentons US LLP of Washington, D.C.

For the Commission Investigative Staff:

Margaret D. Macdonald, Esq., Director; David O. Lloyd, Esq., Supervisory Attorney; Andrew Beverina, Esq., Investigative Attorney of the Office of Unfair Import Investigations, U.S. International Trade Commission, of Washington, D.C.

**PUBLIC VERSION**

Pursuant to the Notice of Investigation, 80 Fed. Reg. 42839 (July 20, 2015), this is the Initial Determination in the matter of *Certain Resealable Packages with Slider Devices*, United States International Trade Commission Investigation No. 337-TA-962. See 19 C.F.R. § 210.42(a).

It is held that no violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, has occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain resealable packages with slider devices by reason of infringement of certain claims of U.S. Patent Nos. 6,427,421; 6,524,002; and 7,311,443.



## PUBLIC VERSION

**TABLE OF CONTENTS**

|       |   |    |
|-------|---|----|
| I.    | BACKGROUND .....  | 1  |
| A.    | Institution and Procedural History of This Investigation..... | 1  |
| B.    | The Parties .....   | 2  |
| 1.    | Complainants .....  | 2  |
| 2.    | Respondents .....   | 2  |
| C.    | The Patent at Issue and Overview of the Technology .....      | 2  |
| 1.    | Overview of the Technology.....                               | 2  |
| 2.    | The '421 Patent .....   | 3  |
| 3.    | The '002 Patent .....   | 4  |
| 4.    | The '443 Patent .....   | 5  |
| D.    | The Products At Issue.....                                    | 6  |
| II.   | IMPORTATION OR SALE .....                                     | 6  |
| III.  | JURISDICTION .....  | 7  |
| IV.   | CLAIM CONSTRUCTION.....                                       | 8  |
| A.    | Legal Standard.....   | 8  |
| B.    | Level of Skill in the Art.....                                | 13 |
| C.    | The '421 Patent.....  | 13 |
| D.    | The '002 Patent.....  | 24 |
| E.    | The '443 Patent.....  | 35 |
| V.    | INFRINGEMENT DETERMINATION .....                              | 40 |
| A.    | Applicable Law.....   | 40 |
| B.    | The '421 Patent.....  | 44 |
| C.    | The '002 Patent.....  | 49 |
| D.    | The '443 Patent.....  | 53 |
| VI.   | VALIDITY .....  | 55 |
| A.    | Burden of Proof .....   | 55 |
| B.    | Anticipation .....  | 56 |
| 1.    | The '421 Patent .....   | 59 |
| 2.    | The '002 Patent .....   | 60 |
| 3.    | The '443 Patent .....   | 61 |
| C.    | Obviousness.....  | 66 |
| 1.    | The '002 Patent .....   | 71 |
| 2.    | The '443 Patent .....   | 72 |
| VII.  | DOMESTIC INDUSTRY .....                                       | 73 |
| A.    | Applicable Law.....   | 73 |
| B.    | Technical Prong.....  | 80 |
| 1.    | The '421 Patent .....   | 80 |
| 2.    | The '002 Patent .....   | 81 |
| 3.    | The '443 Patent .....   | 83 |
| C.    | Economic Prong .....  | 88 |
| VIII. | CONCLUSIONS OF LAW.....                                       | 89 |
| IX.   | INITIAL DETERMINATION AND ORDER .....                         | 90 |
| X.    | RECOMMENDED DETERMINATION ON REMEDY AND BOND.....             | 91 |
| A.    | Remedy and Bonding .....                                      | 91 |
| 1.    | Limited Exclusion Order.....                                  | 91 |
| 2.    | General Exclusion Order.....                                  | 91 |
| 3.    | Cease and Desist Order .....                                  | 94 |

**PUBLIC VERSION**

|   |    |
|---|----|
| 4. Bond During Presidential Review Period ..... | 94 |
| B. Conclusion.....                              | 95 |

**PUBLIC VERSION**

The following abbreviations may be used in this Initial Determination:

|             |  |
|-------------|--|
| <b>CDX</b>  | Complainant's demonstrative exhibit      |
| <b>CIB</b>  | Complainant's initial post-hearing brief |
| <b>CPB</b>  | Complainant's pre-hearing brief          |
| <b>CPX</b>  | Complainant's physical exhibit           |
| <b>CRB</b>  | Complainant's reply post-hearing brief   |
| <b>CX</b>   | Complainant's exhibit                    |
| <b>Dep.</b> | Deposition                               |
| <b>JX</b>   | Joint Exhibit                            |
| <b>RDX</b>  | Respondent's demonstrative exhibit       |
| <b>RIB</b>  | Respondent's initial post-hearing brief  |
| <b>RPX</b>  | Respondent's physical exhibit            |
| <b>RPB</b>  | Respondent's Pre-hearing brief           |
| <b>RRB</b>  | Respondent's reply post-hearing brief    |
| <b>RRX</b>  | Respondent's rebuttal exhibit            |
| <b>RX</b>   | Respondent's exhibit                     |
| <b>SIB</b>  | Staff's initial post-hearing brief       |
| <b>SRB</b>  | Staff's reply post-hearing brief         |
| <b>Tr.</b>  | Transcript                               |

PUBLIC VERSION

**I. BACKGROUND**

**A. Institution and Procedural History of This Investigation**

By publication of a notice in the *Federal Register* on July 20, 2015, pursuant to subsection (b) of section 337 of the Tariff Act of 1930, as amended, the Commission instituted Investigation No. 337-TA-962 with respect to U.S. Patent Nos. 6,427,421 (“the ’421 Patent”); 6,524,002 (“the ’002 Patent”); and 7,311,443 (“the ’443 Patent”) to determine:

whether there is a violation of subsection (a)(1)(B) of section 337 in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain resealable packages with slider devices by reason of infringement of one or more of claim 39 of the ’421 patent; claim 1 of the ’002 patent; and claim 1 of the ’443 patent and whether an industry in the United States exists as required by subsection (a)(2) of section 337

(80 Fed. Reg. 42839 (July 20, 2015).)

The complainant is Reynolds Presto Products Inc. (“Presto”) of Appleton, WI. (*Id.*) The respondents are Inteplast Group, Ltd. of Livingston, NJ and Minigrip LLC of Alpharetta, GA (collectively, “Respondents”). (*Id.*) The Office of Unfair Import Investigations (“Staff”) is also a party in this investigation. (*Id.*)

The investigation was assigned to Administrative Law Judge Theodore R. Essex. (Notice to the Parties (July 15, 2015).)

On February 11, 2016, the ALJ issued an Initial Determination (“ID”) granting in part and denying in part complainant Reynolds Presto Products Inc.’s motion for summary determination that it has satisfied the economic prong of the domestic industry requirement. (Order No. 8.) The Commission determined not review Order No. 8. (Notice Of A Commission Determination Not To Review An Initial Determination Granting In Part Complainant’s Motion

**PUBLIC VERSION**

For Summary Determination That It Has Satisfied The Economic Prong Of The Domestic Industry Requirement (March 14, 2016).)

The evidentiary hearing was held from March 14-15, 2015. Presto, Respondents and Staff participated in the hearing.

**B. The Parties**

**1. Complainants**

Presto is a corporation organized and existing under the laws of the State of Delaware with a principal place of business located at 670 N. Perkins Street, Appleton, WI 54912. (Complaint at ¶ 5.)

**2. Respondents**

Inteplast is a corporation organized and existing under the laws of the State of Texas with a principal place of business located at 9 Peach Tree hill Road, Livingston, NJ 07039. (Response to the Complaint at ¶ 12.)

Minigrip is a corporation organized and existing under the laws of the State of Delaware with a principal place of business located at 1650 North Heideke St., Seguin, TX 78155. (Response to the Complaint at ¶ 13.)

**C. The Patent at Issue and Overview of the Technology**

**1. Overview of the Technology**

The technology of the asserted patents generally relate to the packaging industry. (CIB at 5; JX-0001-3). Specifically, the inventions relate to a fastener with a slider for use in recloseable slider packages and zipper closure arrangements, as well as a method of producing closure mechanisms for polymer packages, such as plastic bags. (*Id.*)

PUBLIC VERSION

**2. The '421 Patent**

U.S. Patent Nos. 6,427,421 entitled "Method of Manufacturing Recloseable Packages," issued on August 6, 2002. (JX-0001 (the '421 Patent).) Kirk E. Belmont of Fairport, New York and Ian J. Barclay of Marion, New York are the named inventors. (*Id.*) The '421 Patent is directed to a "[a] plurality of fastener arrangements for use in manufacturing recloseable bags comprising a first fastener and a second fastener connected to the first fastener." (*Id.* at Abstract.)

The asserted claim of the '421 patent is claim 39. The asserted claim reads as follows:

39. A method of manufacturing recloseable packages, said method comprising:

providing a first wall panel opposing a second wall panel;

positioning a zipper between said first and second wall panels, said zipper including a first track with a first profile and a second track with a second profile, said first and second profiles being releasably engageable to each other, and a slider slidably mounted to said zipper for movement between a closed position and an open position, said first and second profiles being engaged to each other while said slider is in said closed position, said first and second profiles being disengaged from each other in response to movement of said slider from said closed position to said open position

feeding a zipper sheet of said zippers between said first and second wall panels before positioning said zipper, said sheet of zippers comprising a plurality of said zippers releasably adhered to each other

adhering said first profile of said zipper to said first wall panel;

forming first and second spaced side seals in said first and second wall panels to define first and second sidewalls of said packages;

adhering said second profile of said zipper to said second wall panel; and

cutting said side seals to separate adjacent packages

PUBLIC VERSION

**3. The '002 Patent**

U.S. Patent No. 6,524,002 (“the '002 Patent”) entitled “Slider Device, Packages, and Methods” issued on February 25, 2003. (JX-0002.) Mladomir Tomic of Appleton, Wisconsin is the named inventor. (*Id.*) The '002 Patent is directed at “[a] slider device for use with a resealable package...that facilitate mounting of the slider device...” (*Id.* at Abstract.)

The asserted claim of the '002 Patent is claim 1. The asserted claim reads as follows:

1. A flexible package comprising:

(a) a package surrounding wall having first and second panel sections and a mouth there between; said mouth providing access to a package interior;

(b) a resealable closure mechanism along said mouth for selective opening and closing of said mouth; said closure mechanism extending from a first side edge to a second side edge and including first and second closure profiles;

(i) said first and second closure profiles being constructed and arranged to interlock; and

(c) a slider device for selectively opening and closing said closure mechanism; said slider device having a housing defined by a first sidewall and a second sidewall each having a first end and a second end, the slider device further having:

(i) a top wall;

(ii) a spreader depending from said top wall for separating said first and second closure profiles;

(iii) a first hook construction depending from said top wall, said first hook construction having:

(A) a first end opposite said top wall, the first end defining a hook length;

(B) a first deflection surface positioned on an internal surface of said first hook construction at said first end and positioned at an angle of about 40 to 50 degrees from said top wall; and

**PUBLIC VERSION**

(C) a first engagement surface to engage said first closure profile, the first engagement surface extending the hook length;

(iv) a second hook construction depending from said top wall, said second hook construction having:

(A) a second end opposite said top wall, the second end defining a hook length;

(B) a second deflection surface positioned on an interior surface of said second hook construction at said first end and positioned at an angle of about 40 to 50 degrees from said top wall; and

(C) a second engagement surface to engage said second closure profile, the second engagement surface extending the hook length; and

(v) a channel defined by said first and second hook constructions and extending there between to accept said closure mechanism.

**4. The '443 Patent**

U.S. Patent No. 7,311,443 ("the '443 Patent") entitled "Resealable Bag Having a Slider Device to an Open Closure Mechanism" issued on December 25, 2007. (JX-0003.) James E. Buchman of Hortonville, Wisconsin is the named inventor. (*Id.*) The '443 Patent is directed at "[a] resealable bag." (*Id.* at Abstract.)

The asserted claim of the '443 Patent is claim 1. The asserted claim reads as follows:

1. A resealable bag comprising:

(a) first and second panel sections joined together to define an enclosed region, first and second opposite side edges, a bottom and a mouth that provides access to the enclosed region;

(b) a closure mechanism comprising first and second closure profiles;

(i) the first closure profile comprising a first base strip and a first upper flange, the first base strip having a first interlocking member extending therefrom;



**PAGE CONTAINS CONFIDENTIAL BUSINESS INFORMATION**

**PUBLIC VERSION**

- (ii) the second closure profile comprising a second base strip and a second upper flange, the second base strip having a second interlocking member extending therefrom;
- (iii) the first and second interlocking members constructed and arranged to selectively interlock;
- (c) a slider device for selectively opening and closing the closure mechanism, the slider device comprising:
  - (i) a top wall and a pair of side walls, the top wall and side walls defining a cavity sized to receive the first and second upper flanges;
  - (ii) a spreader for separating the first and second closure profiles, the spreader depending from the top wall, the spreader having a channel there through; and
- (d) wherein the first and second upper flanges are positioned in the channel through the spreader.

**D. The Products At Issue**

Presto argues that the accused products are those set forth in CX-0030C and CX-0061C. (CIB at 7-8.) Specifically, this includes products manufactured by the processes disclosed at respondents' [REDACTED] facilities for the '421 Patent and the Minigrip, [REDACTED] [REDACTED] bags for the '002 and the '443 Patents. (*Id.* at 8.)

**II. IMPORTATION OR SALE**

Section 337 of the Tariff Act prohibits the importation into the United States, the sale for importation, or the sale within the United States after importation by the owner, importer, or consignees of articles that infringe a valid and enforceable United States patent. *See* 19 U.S.C. § 1337(a)(1)(B). A complainant "need only prove importation of a single accused product to satisfy the importation element." *Certain Purple Protective Gloves*, 337-TA-500, Order No. 17 (September 23, 2004).

## PUBLIC VERSION

The parties have stipulated to the importation, sale for importation, and/or sale after importation of the accused products. (EDIS Doc ID No. 576210 (Joint Stipulation Regarding Importation and Injury (March 11, 2016).) As such, the ALJ finds that the importation requirement for purposes of Section 337 has been satisfied based on the parties' stipulation.

### III. JURISDICTION

In order to have the power to decide a case, a court or agency must have both subject matter jurisdiction and jurisdiction over either the parties or the property involved. (*See Certain Steel Rod Treating Apparatus and Components Thereof*, Inv. No. 337-TA-97, Commission Memorandum Opinion, 215 U.S.P.Q. 229, 231 (1981).) For the reasons discussed below, the ALJ finds the Commission has jurisdiction over this investigation.

Section 337 declares unlawful the importation, the sale for importation, or the sale after importation into the United States of articles that infringe a valid and enforceable United States patent by the owner, importer, or consignee of the articles, if an industry relating to the articles protected by the patent exists or is in the process of being established in the United States. (*See* 19 U.S.C. §§ 1337(a)(1)(B)(i) and (a)(2).) Pursuant to Section 337, the Commission shall investigate alleged violations of the Section and hear and decide actions involving those alleged violations.

As set forth *supra* in Section II, the importation requirement has been satisfied. Furthermore, Respondents have appeared and participated fully in this investigation and do not dispute the Commission's jurisdiction, aside from arguing that Presto cannot establish a domestic industry and that the asserted patents are not infringed and invalid. (RIB at 7.) Accordingly, the ALJ finds that Respondents have submitted to the jurisdiction of the Commission. (*See Certain Miniature Hacksaws*, Inv. No. 337-TA-237, Pub. No. 1948, Initial Determination at 4, 1986 WL

## PUBLIC VERSION

379287 (U.S.I.T.C., October 15, 1986) (unreviewed by Commission in relevant part).) Thus, the ALJ finds that the Commission has jurisdiction under Section 337 to hear this investigation and has *in personam* jurisdiction over Respondents.

The ALJ also finds that the Commission has *in rem* jurisdiction over the products at issue by virtue of the fact that accused products and components have been imported into the United States. (See *Enercon*, 151 F.3d at 1380; *Sealed Air Corp. v. International Trade Comm'n*, 645 F.2d 976, 985 (C.C.P.A. 1981) (An exclusion order operates against goods, not parties, and therefore is not contingent upon a determination of personal jurisdiction over a foreign manufacturer.).)

#### IV. CLAIM CONSTRUCTION

##### A. Legal Standard

Pursuant to the Commission's Notice of Investigation, this investigation is a patent-based investigation. (See 80 Fed. Reg. 42839 (July 20, 2015).) Accordingly, all of the unfair acts alleged by Presto to have occurred are instances of alleged infringement of the '421, the '002 and the '443 Patents. Claim interpretation is a question of law. (*Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (*en banc*), *aff'd*, 517 U.S. 370 (1996); *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1455 (Fed. Cir. 1998).) Second, a factual determination must be made as to whether the properly construed claims read on the accused devices. (*Markman*, 52 F.3d at 976.)

"The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history." (*Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365–67 (Fed. Cir. 2012) (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (*en banc*)).)

## PUBLIC VERSION

In construing claims, the ALJ should first look to intrinsic evidence, which consists of the language of the claims, the patent's specification, and the prosecution history, as such evidence "is the most significant source of the legally operative meaning of disputed claim language." (*Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996); *see also Bell Atl. Network Servs., Inc. v. Covad Comm'n. Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001).) The words of the claims "define the scope of the patented invention." (*Id.*) And, the claims themselves "provide substantial guidance as to the meaning of particular claim terms." (*Phillips*, 415 F.3d at 1314.) It is essential to consider a claim as a whole when construing each term, because the context in which a term is used in a claim "can be highly instructive." (*Id.*) Claim terms are presumed to be used consistently throughout the patent, such that the usage of the term in one claim can often illuminate the meaning of the same term in other claims. (*Research Plastics, Inc. v. Federal Pkg. Corp.*, 421 F.3d 1290, 1295 (Fed. Cir. 2005).) In addition:

... in clarifying the meaning of claim terms, courts are free to use words that do not appear in the claim so long as the resulting claim interpretation ... accord[s] with the words chosen by the patentee to stake out the boundary of the claimed property.

(*Pause Tech., Inc. v. TIVO, Inc.*, 419 F.3d 1326, 1333 (Fed. Cir. 2005).)

Idiosyncratic language, highly technical terms, or terms coined by the inventor are best understood by reference to the specification. (*Phillips*, 415 F.3d at 1315–16.) While the ALJ construes the claims in light of the specification, limitations discussed in the specification may not be read into the claims. (*See Intervet Inc. v. Merial Ltd.*, 617 F.3d 1282, 1287 (Fed. Cir. 2010); *Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282, 1288 (Fed. Cir. 2009).) Some claim terms do not have particular meaning in a field of art, in which case claim construction involves little more than applying the widely accepted meaning of commonly understood words. (*Phillips*, 415

## PUBLIC VERSION

F.3d at 1314.) Under such circumstances, a general purpose dictionary may be of use.<sup>1</sup> (See *Advanced Fiber Tech. (AFT) Trust v. J & L Fiber Servs., Inc.*, 674 F.3d 1365, 1374–75 (Fed. Cir. 2012).)

Claim terms should generally be given their ordinary and customary meaning except “1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” (*Thorner*, 669 F.3d at 1365.) “To act as its own lexicographer, a patentee must ‘clearly set forth a definition of the disputed claim term . . . .’” (*Id.*; quoting *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)). And “[w]here the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside . . . the patent,” even if the terms might otherwise be broad enough to cover that feature. (*Id.* at 1366 (internal citation omitted).) Thus, if a claim term is defined contrary to the meaning given to it by those of ordinary skill in the art, the specification must communicate a deliberate and clear preference for the alternate definition. (*Kumar v. Ovonic Battery Co.*, 351 F.3d 1364, 1368 (Fed. Cir. 2003).) In other words, the intrinsic evidence must “clearly set forth” or “clearly redefine” a claim term so as to put one reasonably skilled in the art on notice that the patentee intended to so redefine the claim term. (*Bell Atl.*, 262 F.3d at 1268.) For example, disclaiming the ordinary meaning of a claim term—and thus, in effect, redefining it—can be affected through “repeated and definitive remarks in the written description.” (*Computer Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1374 (Fed. Cir. 2008) (citing *Watts v. XL Sys.*, 232 F.3d 877, 882 (Fed. Cir. 2000)); see *SafeTCare Mfg., Inc. v. Tele-Made, Inc.*, 497 F.3d 1262, 1270 (Fed. Cir. 2007))

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<sup>1</sup> Use of a dictionary, however, may extend patent protection beyond that to which a patent should properly be afforded. There is also no guarantee that a term is used the same way in a treatise as it would be by a patentee. *Phillips*, 415 F.3d at 1322.

## PUBLIC VERSION

(finding disclaimer of “pulling force” where “the written description repeatedly emphasized that the motor of the patented invention applied a pushing force”).)

When the meaning of a claim term is uncertain, the specification is usually the first and best place to look, aside from the claim itself, in order to find that meaning. (*Phillips*, 415 F.3d at 1315.) The specification of a patent “acts as a dictionary” both “when it expressly defines terms used in the claims” and “when it defines terms by implication.” (*Vitronics*, 90 F.3d at 1582.) For example, the specification “may define claim terms by implication such that the meaning may be found in or ascertained by a reading of the patent documents.” (*Phillips*, 415 F.3d at 1323.) “The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.” (*Id.* at 1316.) However, as a general rule, particular examples or embodiments discussed in the specification are not to be read into the claims as limitations. (*Markman*, 52 F.3d at 979.)

The prosecution history “provides evidence of how the inventor and the PTO understood the patent.” (*Phillips*, 415 F.3d at 1317; *see also Pass & Seymour, Inc. v. Int’l Trade Comm’n*, 617 F.3d 1319, 1327 (Fed. Cir. 2010) (quoting *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1478 (Fed. Cir. 1998)).) The ALJ may not rely on the prosecution history to construe the meaning of the claim to be narrower than it would otherwise be unless a patentee limited or surrendered claim scope through a clear and unmistakable disavowal. (*Trading Tech. Int’l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1352 (Fed. Cir. 2010) (internal citations omitted); *Vitronics*, 90 F.3d at 1582–83.) For example, the prosecution history may inform the meaning of the claim language by demonstrating how an inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it otherwise would be. (*Vitronics*, 90 F.3d at 1582–83; *see also Chimie v. PPG Indus., Inc.*, 402

## PUBLIC VERSION

F.3d 1371, 1384 (Fed. Cir. 2005) (stating, “The purpose of consulting the prosecution history in construing a claim is to exclude any interpretation that was disclaimed during prosecution.”); *Microsoft Corp. v. Multi-tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) (stating, “We have held that a statement made by the patentee during prosecution history of a patent in the same family as the patent-in-suit can operate as a disclaimer.”.) The prosecution history includes the prior art cited, *Phillips*, 415 F.3d at 1317, as well as any reexamination of the patent. (*Intermatic Inc. v. Lamson & Sessions Co.*, 273 F.3d 1355, 1367 (Fed. Cir. 2001).)

Differences between claims may be helpful in understanding the meaning of claim terms. (*Phillips*, 415 F.3d at 1314.) A claim construction that gives meaning to all the terms of a claim is preferred over one that does not do so. (*Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir.), *cert. denied*, 546 U.S. 972 (2005); *Alza Corp. v. Mylan Labs. Inc.*, 391 F.3d 1365, 1370 (Fed. Cir. 2004).) In addition, the presence of a specific limitation in a dependent claim raises a presumption that the limitation is not present in the independent claim. *Phillips*, 415 F.3d at 1315. This presumption of claim differentiation is especially strong when the only difference between the independent and dependent claim is the limitation in dispute. (*SunRace Roots Enter. Co., v. SRAM Corp.*, 336 F.3d 1298, 1303 (Fed. Cir. 2003).) “[C]laim differentiation takes on relevance in the context of a claim construction that would render additional, or different, language in another independent claim superfluous.” (*AllVoice Computing PLC v. Nuance Commc’ns, Inc.*, 504 F.3d 1236, 1247 (Fed. Cir. 2007).)

Finally, when the intrinsic evidence does not establish the meaning of a claim, the ALJ may consider extrinsic evidence, *i.e.*, all evidence external to the patent and the prosecution history, including inventor testimony, expert testimony and learned treatises. (*Phillips*, 415 F.3d at 1317.) Extrinsic evidence may be helpful in explaining scientific principles, the meaning of



**PUBLIC VERSION**

technical terms, and terms of art. (*Vitronics*, 90 F.3d at 1583; *Markman*, 52 F.3d at 980.) However, the Federal Circuit has generally viewed extrinsic evidence as less reliable than the patent itself and its prosecution history in determining how to define claim terms. (*Phillips*, 415 F.3d at 1318.) With respect to expert witnesses, any testimony that is clearly at odds with the claim construction mandated by the claims themselves, the patent specification, and the prosecution history should be discounted. (*Id.* at 1318.)

If the meaning of a claim term remains ambiguous after a review of the intrinsic and extrinsic evidence, then the patent claims should be construed so as to maintain their validity. (*Id.* at 1327.) However, if the only reasonable interpretation renders a claim invalid, then the claim should be found invalid. (*See Rhine v. Casio, Inc.*, 183 F.3d 1342, 1345 (Fed. Cir. 1999).)

**B. Level of Skill in the Art**

The parties have agreed on the level of ordinary skill in the art. (SIB at 13.) The ALJ finds that a POSITA has (1) a bachelor's degree in mechanical engineering, or similar fields, with a minimum of two years of experience in the field relating to the manufacturing or design of recloseable or resealable packages or bags; or (2) an associate's degree in mechanical engineering, or similar fields, with a minimum of ten years of experience in the field relating to the design or manufacture of recloseable or resealable packages or bags. (SIB at 13.)

**C. The '421 Patent**

Two claim terms are in dispute in this investigation with respect to the '421 Patent. (*See* CIB at 19-28; RIB at 14-28; SIB at 14-25.)

The following lists the parties' proposed claim construction for each disputed term. (*Id.*)



## PUBLIC VERSION

| <b>'421 Claim Term</b>   | <b>Staff</b>   | <b>Complainants</b>  | <b>Respondents</b>  |
|--|--|--|---|
| “positioning a zipper between said first and second wall panels, said zipper including a first track with a first profile and a second track with a second profile, said first and second profiles being releasably engageable to each other and a slider slidably mounted to said zipper for movement between a closed position and an open position” | Claims do not require an order   | Claims do not require an order   | Slider must be applied before zipper adhered to bag   |
| “feeding a zipper sheet of said zippers to between said first and second wall panels before positioning said zipper, said sheet of zippers comprising a plurality of said zippers releasably adhered to each other”  | Plain meaning; zipper sheets releasably adhered are limited to discontinuous zipper segments | Plain meaning; both continuous and discontinuous zipper segments are described in the patent and embodied by the claim | Plain meaning zipper sheets releasably adhered are limited to discontinuous zipper segments |

**1. “positioning a zipper between said first and second wall panels, said zipper including a first track with a first profile and a second track with a second profile, said first and second profiles being releasably engageable to each other and a slider slidably mounted to said zipper for movement between a closed position and an open position”**

| <b>Staff's Proposed Construction</b> | <b>Presto's Proposed Construction</b> | <b>Respondents' Proposed Construction</b>           |
|--------------------------------------|---------------------------------------|---|
| Claims do not require an order       | Claims do not require an order        | Slider must be applied before zipper adhered to bag |

## PUBLIC VERSION

Presto and Staff argue that the claims do not require a specific order as supported by the plain language of the claims and in the prosecution history. (CIB at 21-25; SIB at 14-20.) Respondents argue that a “plain reading” of the claim by one of ordinary skill in the art would mean that the zipper must include the slider and tracks before it is positioned and attached to the wall panels. (RIB at 16.) Specifically, Respondents argue that the claim language explicitly and implicitly calls for the steps to “take place in a logical order.” (*Id.*) Respondents further note that “all” of the embodiments show that the sliders are mounted onto the zipper tracks before the zippers are positioned and adhered to the walls of the bag. (*Id.* at 17.) Respondents argue that the patentee also confirmed that the slider is mounted onto the zipper before the steps in the claim during reexamination when it explained the process upon which the ’421 patent was based and the advantages of this process over prior manufacturing processes. (RIB at 18-19.)

The ALJ finds that the claim 39 does not require a specific order. In determining whether the claims require a specific order, the Federal Circuit has set forth a two-part test for determining if the steps of a method claim that do not otherwise recite an order, must nonetheless be performed in the order in which they are written. *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1369-70 (Fed. Cir. 2003).

First, we look to the claim language to determine if, as a matter of logic or grammar, they must be performed in the order written. For example, in *Loral Fairchild Corp. v. Sony Electronics Corp.*, 181 F.3d 1313, 1321, 50 USPQ2d 1865, 1870 (Fed.Cir.1999), we held that the claim language itself indicated that the steps had to be performed in their written order because the second step required the alignment of a second structure with a first structure formed by the prior step. If not, we next look to the rest of the specification to determine whether it “directly or implicitly requires such a narrow construction.” If not, the sequence in which such steps are written is not a requirement.

(*Id.*) (internal citations omitted).

## PUBLIC VERSION

First, the language of the claims makes clear that no specific order is required – explicitly or implicitly. *Interactive Gift Express, Inc. v. Compuserve, Inc.*, 256 F.3d 1323, 1342 (Fed. Cir. 2001) (“Unless the steps of a method actually recite an order, the steps are not ordinarily construed to require one.”) (citing *Loral Fairchild Corp. v. Sony Corp.*, 181 F.3d 1313, 1322 (Fed. Cir. 1999)). The language of the claim 39 describes various steps in manufacturing, but there is nothing in the claims that indicates that the steps must be performed in a specific order. The portion of claim 39 cited by Respondents, *e.g.* “feeding a zipper sheet of said zippers to between said first and second wall panels before positioning said zipper,” requires an order of steps for that portion alone – it does not expand to encompass the entire claim as requiring a certain order. Similarly, there is nothing in the claims that implicitly requires an order to the steps. Respondents’ conclusory argument that it “must” occur in a set order, or it would be “illogical,” is unpersuasive.

Second, as correctly noted by Presto and Staff, the claim limitation at issue (“said zipper including a first track with a first profile and a second track with a second profile, said first and second profiles being releasably engageable to each other and a slider slidably mounted to said zipper for movement between a closed position and an open position”) simply describes the different elements of the claim, *e.g.*, a slider and a zipper. There is nothing in the claim language itself that requires the slider be applied before the zipper is adhered to the bag.

Moreover, there is nothing in the specification that requires or supports Respondents’ contention that the “positioning” element be performed in a specific order. Moreover, the prosecution history indicates that there is no specific order in which the steps were to be performed. During the *ex parte* reexamination, the BPAI stated that the claim did not specify the order of steps. Specifically, there were a series of rejections and responses that relate to

## PUBLIC VERSION

whether the steps of claim 1 must be performed in order. (JX-0005 at JX-0005.1331) Claim 1, which was later cancelled, has the same relevant language as asserted claim 39. (*Id.* at JX-0005.1344-5.) The relevant language in cancelled claim 1 is the same for claim 39:

| Claim 1  | Claim 39   |
|--|--|
| positioning a zipper between said first and second wall panels, said zipper including a first track with a first profile and a second track with a second profile, said first and second profiles being releasably engageable to each other, and a slider slidably mounted to said zipper for movement between a closed position and an open position, | positioning a zipper between said first and second wall panels, said zipper including a first track with a first profile and a second track with a second profile, said first and second profiles being releasably engageable to each other, and a slider slidably mounted to said zipper for movement between a closed position and an open position, |

In considering claim 1, the BPAI held that “[a]s a matter of claim interpretation, claim 1 does not generally specify the order of the steps...” (*Id.* at JX-0005.1345. ) The BPAI further noted that claims depending from claim 1 added limitations where the slider was added to the zipper after the zipper is attached to the side walls, further indicating that there was no specific order to the steps, particularly when the slider was mounted to the zipper:

Our interpretation that claim 1 does not generally specify the order of steps is further evidenced by the step of positioning the zipper in claim 1 interpreted in light of claims 16-18. This step recites that the zipper has first and second engageable profiles and a slider mounted to the zipper, which implies that the slider is mounted to the zipper before the zipper is attached to the wall panels as later recited in claim 1. However, claim 16 recites that claim 1 includes a step of mounting the slider onto the zipper, claim 17 depends on claim 16 and recites that the slider is mounted onto the zipper after the first profile of the zipper is adhered to the first wall panel (because the claim is open-ended it does not preclude mounting the slider onto the zipper after the zipper is also attached to the second wall panel), and claim 18 depends on claim 16 and recites that the slider is mounted onto the zipper after the first profile of the zipper is adhered to the first wall panel and the second profile of the zipper is adhered to the second wall panel. Thus, the slider can be mounted to the zipper after the zipper is attached to the side wall panels. Claim 1 must allow this order of assembly, so the order of assembling the slider to the zipper, before or after the profiles of the zipper are attached to the side walls, is not specified in claim 1.

## PUBLIC VERSION

(*Id.* at JX-0005.1347 n.3.; *see also Id.* at JX-0005.1351 n.4 (same discussion and conclusion regarding proposed claim 19, which had the same disputed language).)

Therefore, the ALJ finds that claim 39 does not require a specific order.

**2. “feeding a zipper sheet of said zippers to between said first and second wall panels before positioning said zipper, said sheet of zippers comprising a plurality of said zippers releasably adhered to each other”**

| Staff's Proposed Construction   | Presto's Proposed Construction   | Respondents' Proposed Construction  |
|---|--|---|
| Zipper sheets releasably adhered are limited to discontinuous zipper segments | Plain meaning: both continuous and discontinuous zipper segments are described in the patent and embodied by the claim | Zipper sheets releasably adhered are limited to discontinuous zipper segments |

Respondents and Staff argue that the claim term refers to “zipper sheets releasably adhered are limited to discontinuous zipper segments.” (RIB at 20-28; SIB at 21-25.) Presto argues that the term is broad enough to encompass both continuous and discontinuous zipper segments. (CIB at 25-28.) Specifically, Presto argues that there was no “clear and unambiguous” surrender of subject matter during prosecution history that would limit the scope of the claim and, further, that specification makes no distinction between “zipper sheets” and “zipper arrangements.” (CIB at 26-27.) Presto argues that the specification teaches that the term “releasably adhered” should be construed broadly enough to encompass both continuous and discontinuous zipper fasteners. (CIB at 27; CRB at 13-14.)

The ALJ finds that the zipper sheets releasably adhered as described in claim 39 is limited to discontinuous zipper segments. First, the claims themselves make a distinction between “zipper sheets” and “zipper arrangements.” Dependent claims 2 and 3 are identical except for the distinction between “zipper sheets” and “zipper arrangements”:

## PUBLIC VERSION

| CLAIM 2   | CLAIM 3  |
|---|--|
| The method of claim 1 further including a step of feeding a <b>zipper arrangement</b> between said first and second panels before positioning said zipper, said <b>zipper arrangement</b> comprising a plurality of said zippers <b>connected in line with each other</b> . | The method of claim 1 further including a step of feeding a <b>zipper sheet of said zippers</b> between said first and second panels before positioning said zipper, said <b>sheet of zippers</b> comprising a plurality of said zippers <b>releasably adhered to each other</b> . |

(JX-0001 at claims 2 and 3) (emphasis added). Similarly, dependent claims 22 and 24 make the same distinction:

| CLAIM 22  | CLAIM 24   |
|---|--|
| The method of claim 19 further including a step of feeding a <b>zipper arrangement</b> between said first and second wall panels before positioning said zipper, said <b>zipper arrangement</b> comprising a plurality of said zippers <b>connected in line with each other</b> . | The method of claim 19 further including a step of feeding a <b>sheet of said zippers</b> to between said first and second wall panels before positioning said zipper, said <b>sheet of zippers</b> comprising a plurality of said zippers <b>releasably adhered to each other</b> . |

(*Id.* at claims 22 and 24) (emphasis added). The doctrine of claim differentiation states that “[o]ther claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (*en banc*). The doctrine of claim differentiation “create[s] a presumption that each claim in a patent has a different scope.” *Comark Communications, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998). The difference is presumed to be significant when the absence of the difference would render a claim limitation superfluous. *Versa Corp. v. Ag-Bag Int’l Ltd.*, 392 F.3d 1325, 1330 (Fed. Cir. 2004); *Inline Plastic Corp. v. Easypak, LLC*, 799 F.3d 1364, 1371 (Fed. Cir. 2015).

Here, the only difference between the “zipper arrangement” claims (claims 2 and 22) and the “zipper sheet” claims (claims 3 and 24) is that the “zipper arrangements” are “connected in



PUBLIC VERSION

line," *i.e.*, continuous, but the "zipper sheets" are a sheet of "releasably adhered zippers." (*Id.* at claims 2, 3, 22 and 24.) Under the doctrine of claim differentiation, these claims are presumed to have a different scope. *Versa Corp.*, 392 F.3d at 1330. Should the claim be construed as Presto argues (that there is no difference between a continuous zipper arrangement and a discontinuous zipper sheet), then the absence of the difference would render claims 2 and 3 and claims 22 and 24 superfluous.

Presto's own expert, Dr. Reinholtz, agreed that the claims claimed different things.

Q But the claims claim separate things, and if you took out "zipper arrangement connected in line with each other" from claim 2 and "zipper sheet releasably adhered from each other" from claim 3, those claims would be exactly the same; correct?

A Yes, I agree.

Q And if we could also go to claims 22 and 24. And this is similar. These depend from claim 19, but claim 22 is "the method of claim 19 further including a step of feeding a zipper arrangement between said first and second wall panels before positioning said zipper, said zipper arrangement comprising a plurality of said zippers connected in line with each other."

Claim 24 says "the method of claim 19 further including a step of feeding a sheet of said zippers to between said first and second wall panels before positioning said zipper, said sheet of zippers comprising a plurality of said zippers releasably adhered to each other."

Do you see that?

A Yes, I do.

Q Similar to claims 2 and 3, if you took out "zipper arrangement connected in line with each other" from claim 22 and "sheet of said zippers releasably adhered to each other," there would be no difference in those claims?

A I do agree with you.

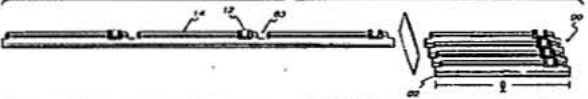
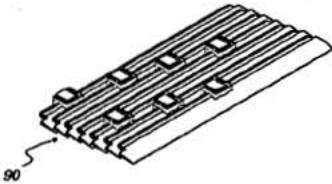
(Tr. at 79:21-80:22.)

## PUBLIC VERSION

Moreover, the specification repeatedly describes zipper arrangements as distinct from zipper sheets. In the Summary of the Invention, the patent discloses the difference between a “zipper arrangement” and a “sheet of zippers”:

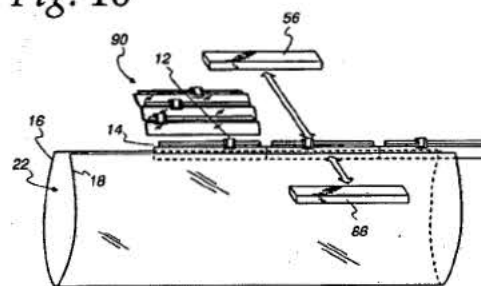
The method may further include feeding a zipper arrangement between the wall panels before positioning the zipper. The **zipper arrangement comprises a continuous male track and a continuous female track with a plurality of sliders**. Alternatively, the method may further include feeding a sheet of zippers with sliders between the wall panels before positioning the zipper. The **sheet of zippers comprises a plurality of zippers releasably adhered to each other**.

(JX-0001 at 2:64-3:3) (emphasis added). Indeed, the specification describes and shows zipper sheets as discontinuous and releasably adhered to each other:

| Zipper Sheets Disclosed in Specification  | Corresponding figure  |
|---|---|
| <p>“FIG. 7 is a process diagram for forming a sheet of fasteners.” (JX-0001 at 3:30-31.)</p>  | <p>Fig. 7</p>    |
| <p>“FIG. 8a is a perspective view of a sheet of fasteners.” (<i>Id.</i> at 3:32.)</p> <p>“FIG. 8a also depicts the individual lengths 1 of fasteners 14 with sliders 12 accumulated into a sheet 90 .... The fasteners are preferably positioned parallel to each other on the sheet 90.” (<i>Id.</i> at 7:50-56.)</p> <p>“In one embodiment shown in FIG. 8b, a releasable adhesive 92 releasably adheres the adjacent fasteners 14 with sliders 12 to one another. In another embodiment, the profile 26 or 32 of one fasteners 14 with slider 12 is releasably sealed to the fin 34 or 28 of the adjacent fastener 14 with slider 12. The adjacent fasteners 14 of the sheet may be releasably adhered to each other by any appropriate means.” (<i>Id.</i> at 56-63.)</p> | <p>Fig. 8a</p>  |

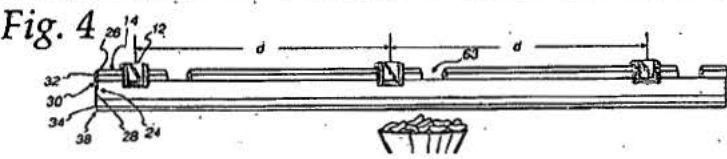
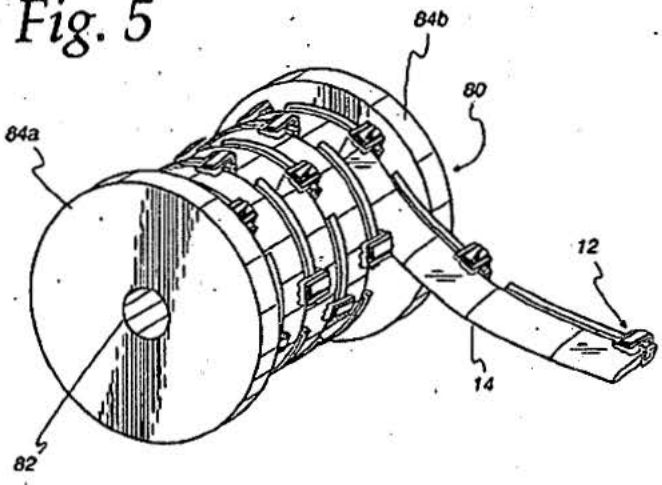
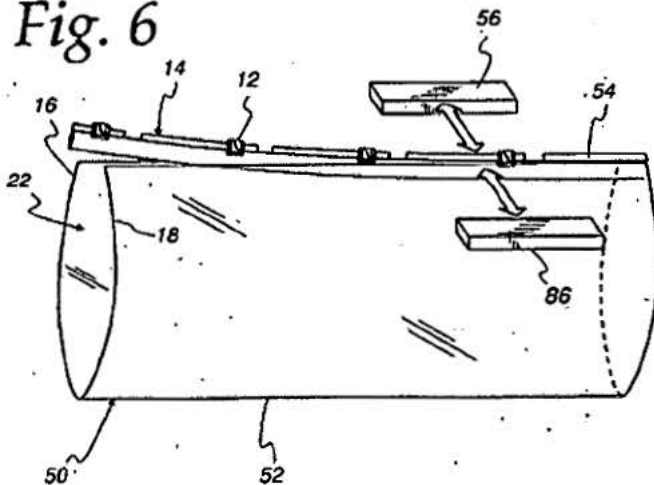


“FIG. 10 illustrates the sheet 90 of fasteners 14 with sliders 12 feeding the form, fill and seal process. One individual fastener 14 with slider 12 is removed from the sheet 90 and placed either pneumatically, mechanically or electro-mechanically between the wall panels 16 and 18 at the mount of the web 50 ....” (*Id.* at 8:16-21.)



**Appx0031**

## PUBLIC VERSION

| "Zipper arrangements" Disclosed in Specification   | Corresponding figure  |
|--|---|
| <p>"FIG. 4 is a perspective view of a zipper arrangement." (JX-0001 at 3:26.)</p> <p>"FIG. 4 illustrates a zipper arrangement 14 with sliders 12 slidably mounted to the zipper 14 at predetermined distances d." (<i>Id.</i> at 6:20-22.)</p>   | <p><b>Fig. 4</b></p>    |
| <p>"FIG. 5 is a roll of the zipper arrangement of FIG. 4." (<i>Id.</i> at 3:27.)</p> <p>"The zipper arrangement 14 with sliders 12 at predetermined intervals may be accumulated onto a roll 80 as illustrated in FIG. 5." (<i>Id.</i> at 6:52-54.)</p>  | <p><b>Fig. 5</b></p>   |
| <p>"FIG. 6 is a process diagram of zipper arrangement of FIG. 4 fed to the form, fill and seal process." (<i>Id.</i> at 3:28-29.)</p> <p>"As depicted in FIG. 6, the first top seal bar 56 moves back and forth to attach a portion of the zipper arrangement 14 with slider 12 to the wall panel 16 to form the first top seal 54." (<i>Id.</i> at 7:9-12.)</p> | <p><b>Fig. 6</b></p>  |

Presto argues that the specification does not cleanly distinguish between zipper sheets and zipper arrangements, "but rather describes them as overlapping embodiments at the very

## PUBLIC VERSION

least.” (CRB at 13.) In support, Presto notes that the description of the zipper sheets specifically states that it is to be used in conjunction with the process illustrated in Figures 3a through d, which describe the process for the zipper arrangement. (CRB at 13-14.) Presto further argues that the only requirement set forth in the specification is that the “zipper sheet” is comprised of multiple adjacent fasteners. (*Id.* at 14.)

The ALJ finds Presto’s arguments unpersuasive. Even assuming that zipper sheets and zipper arrangements are “overlapping embodiments” described in the specification, the *claims* of the patent are directed at distinct embodiments – claims 2 and 22 are directed at zipper arrangements and claims 3, 24 and 39 are directed at zipper sheets. *Philips*, 415 F.3d at 1312 (“It is a “bedrock principle” of patent law that “the claims of a patent define the invention to which the patentee is entitled the right to exclude.””) (citations omitted). Similarly, the ALJ finds Presto’s assertion that the “only” requirement for the zipper sheet is that it is comprised of multiple adjacent fasteners to be unpersuasive. The specification describes many other requirements for the sheets, *e.g.*, that the fasteners be positioned parallel to each other, that they be accumulated on a sheet, etc. (JX-0001 at 7:49-63.)

Therefore, the ALJ finds that the zipper sheets releasably adhered as described in claim 39 is limited to discontinuous zipper segments.

**D. The '002 Patent**

Two claim terms are in dispute in this investigation with respect to the '002 Patent. (*See* CIB at 51-63; RIB at 42-51; SIB at 35-41.)

The following lists the parties’ proposed claim construction for each disputed term. (*Id.*)

## PUBLIC VERSION

| <b>'002 Claim Term</b>  | <b>Staff</b>   | <b>Complainants</b>  | <b>Respondents</b>   |
|---|--|--|--|
| a [first/second] engagement surface to engage said [first/second] closure profile, the [first/second] engagement surface extending the hook length                                    | each 'engagement surface' must extend continuously along the entire 'hook length' of the 'hook construction' without discontinuities, ribs or shoulders of the kind disclosed in the prior art Porchia '285 patent<br><br>The 'hook length' is the length of the 'hook construction' opposite the top wall | The [first/second] engagement surface extends the length of the 'hook construction'<br><br>The 'hook length' is the length of the 'hook construction' opposite the top wall  | each 'engagement surface' must extend continuously along the entire 'hook length' of the 'hook construction' without discontinuities, ribs or shoulders of the kind disclosed in the prior art Porchia '285 patent<br><br>The 'hook length' is the length of the 'hook construction' opposite the top wall |
| "deflection surface positioned on an interior surface of said first/second hook construction at said first end and position at an angle of about 40 to 50 degrees from said top wall" | Deflection surfaces are to "facilitate mounting of the slider" and "aid in aligning the slider onto the closure mechanism"<br><br>"about 40 to 50 degrees" does not encompass about 30 to 60 degrees   | "deflection surfaces" have the mechanical function of deflecting the hook constructions away from the zipper profile to facilitate mounting of the slider during manufacture.<br><br>"about 40 to 50 degrees" encompasses the specification's disclosure of about 30 to 60 degrees | an angle with respect to the slider's top wall, and that angle must fall within a range of about 40 to 50 degrees  |

**1. "a [first/second] engagement surface to engage said [first/second] closure profile, the [first/second] engagement surface extending the hook length"**

Presto argues that the claim term should be construed to mean that the engagement surface extends the length of the hook construction. (CIB at 53.) Respondents and Staff argue

## PUBLIC VERSION

that the term should be construed to mean that the engagement surface must extend continuously along the entire hook length of the hook construction, without discontinuities, ribs or shoulders of the kind disclosed in the prior art Porchia '258 patent. (RIB at 51; SIB at 39.) Thus, the dispute centers around whether the hook length must be continuous.

The ALJ finds that the hook length must be continuous. In other words, the ALJ finds that the claim term means that each 'engagement surface' must extend continuously along the entire 'hook length' of the 'hook construction' without discontinuities, ribs or shoulders of the kind disclosed in the prior art Porchia '285 patent and where the 'hook length' is the length of the 'hook construction' opposite the top wall.

The claims support such a construction. The claims state, in relevant part:

(iii) a first hook construction depending from said top wall, said first hook construction having:

(A) a first end opposite said top wall, the first end defining a hook length;

(B) a first deflection surface positioned on an internal surface of said first hook construction at said first end and positioned at an angle of about 40 to 50 degrees from said top wall; and

(C) a first engagement surface to engage said first closure profile, the first **engagement surface extending the hook length;**

(iv) a second hook construction depending from said top wall, said second hook construction having:

(A) a second end opposite said top wall, the second end defining a hook length;

(B) a second deflection surface positioned on an interior surface of said second hook construction at said first end and positioned at an angle of about 40 to 50 degrees from said top wall; and

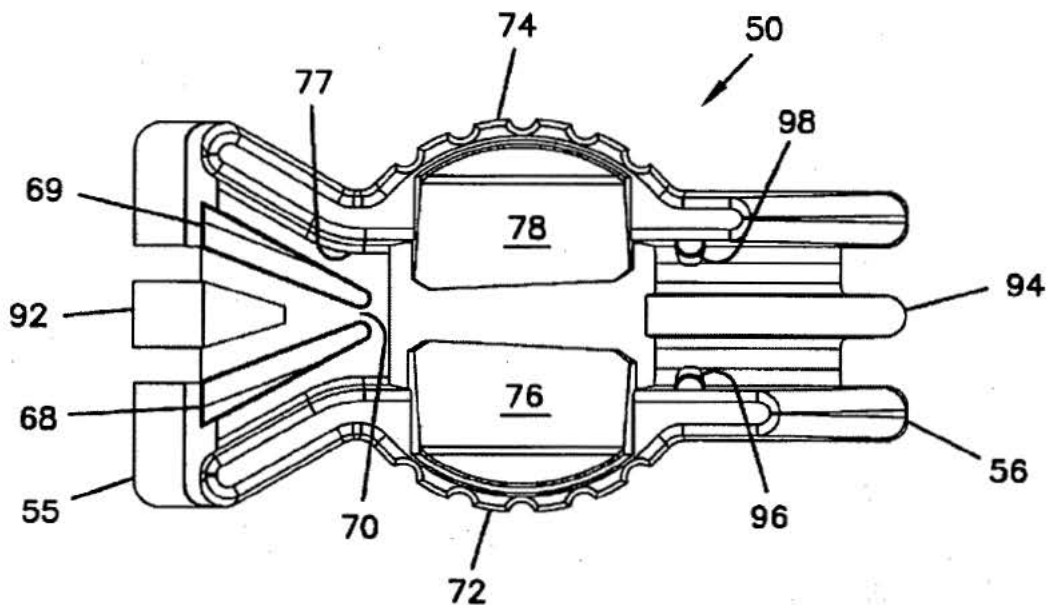
(C) a second engagement surface to engage said second closure profile, the second **engagement surface extending the hook length;**

(JX-0002 at claim 1.) The claim describes two hook constructions with each hook construction having an end opposite the top wall and that end defining a hook length. The engagement surface in each hook construction "extend[s] the hook length." Consequently,

## PUBLIC VERSION

the engagement surfaces extend continuously along the hook lengths, which are defined by the first and second ends.

The figures of the specification show the “hook lengths,” and the inner engagement surfaces,” continuously extending the entire length of the “hook constructions” without any breaks, ribs, or shoulders. (JX-0002 at Figs 4, 5, 7, 8, 10, 11, and 12; RX-0185C at Q&A 114.)



(JX-0002 at Figure 5.)

The prosecution history supports this construction as well. To overcome a prior art rejection in view of the U.S. Patent No. 5,950,285 (“Porchia ’285 Patent”), the applicant amended claim 1 stating:

Claims 1, 13 and 24 have been amended to further clarify the structure of the hook construction. **Each hook construction has a deflection surface that extends the length of the hook construction.** See, for example, FIGS. 4 and 6,

## PUBLIC VERSION

which illustrate hook constructions 76, 78, and FIG. 9, which illustrates hook constructions 76, 78 and deflection surfaces 81, 83.

\* \* \* \*

Applicant has amended claims 1, 13 and 24 to further clarify the structure of the slider device of the pending application. **The hook construction has a length, and the deflection surface extends continuously along the length of the hook construction.**

\* \* \* \*

The slider in the [prior art U.S. Patent No. 5,950,285] Porchia patent includes shoulders on each side of the slider (see shoulders 21a, 22a); these shoulders retain the slider on the fastening strips by grasping a portion of the strips. **Referring to FIG. 3 in Porchia, the cross-sectional view of the slider shows that the shoulders (only shoulder 12a being shown) are not-continuous along the length; rather, two discontinuous shoulders exist.**

\*\*\*\*

**The Porchia patent is lacking, at least, any suggestion of continuous hook constructions** having a deflection surface with the deflection surface positioned at 40 to 50 degrees. Withdrawal of this rejection is requested.

(JX-0006 at JX-0006.375, 377-78 (emphasis added)). The applicant made clear that “the deflection surface extends **continuously** along the length of the hook construction,” *i.e.*, the “hook length.” (*Id.*) If the deflection surface extends “continuously along” the “hook length,” then the “engagement surface” must extend continuously as well because the engagement surface is connected to the deflection surface, as shown in the figures of the '002 patent. (RX-0185C, Q&A 114, 118, 119.) On this basis, the applicant distinguished his invention from the Porchia '285 Patent, which disclosed “two discontinuous shoulders” (where the “deflection surfaces” and “engagement surfaces” would be located) instead of a single, continuous shoulder along the entire “hook length,” as required by claim 1. (*Id.* at Q&A 118-119; *see also* RX-0167 at 13 (“The Porchia patent is lacking, at least, any suggestion of **continuous hook constructions** having a deflection surface with the deflection surface positioned at 40 to 50 degrees. Withdrawal of this rejection is requested.” (emphasis added)).) Therefore, the claim term does not cover



## PUBLIC VERSION

discontinuities, narrow ribs or shoulders inside the slider. (RX-0185C at Q&A 118; *SanDisk Corp. v. Memorex Prods., Inc.*, 415 F.3d 1278, 1286 (Fed. Cir. 2005) (“When the patentee makes clear and unmistakable prosecution arguments limiting the meaning of a claim term in order to overcome a rejection, the courts limit the relevant claim term to exclude the disclaimed matter.”).)

Presto argues, however, that these disclosures are not clear and unambiguous. Rather, as evidenced by the experts at the hearing, the statements made by the applicant regarding the Porchia '285 Patent are ambiguous at best and cannot serve as prosecution history disclaimer. (CRB at 27-28.) Presto argues that both Dr. Reinholtz and Mr. Shields have stated that the applicant's language in the prosecution history was ambiguous. (CRB at 22-23.) Moreover, Presto asserts that Respondents, Staff and Mr. Shields all fundamentally misunderstand the relevant prior art. (*Id.*)

The ALJ finds Presto's arguments unpersuasive. While Presto argues that there are ambiguities in the applicant's statements during prosecution, Presto fails to specifically address the statements cited by Respondents and Staff and how those statements themselves are ambiguous. For example, Dr. Reinholtz's statement that Figure 3 is ambiguous fails to show how the explicit statement made by the applicant that “[t]he hook construction has a length, and the deflection surface extends continuously along the length of the hook construction” and that “the cross-sectional view of the slider [in Porchia] shows that the shoulders (only shoulder 12a being shown) are not-continuous along the length; rather, two discontinuous shoulders exist”, is in any way ambiguous. Rather, the ALJ finds that the statements clearly distinguish the prior art based on the lack of continuity in hook length. Moreover, the ALJ find that the parties' experts' understanding (or lack thereof) of certain statements made by the applicant does not create an



## PUBLIC VERSION

ambiguity simply because one states that there is an ambiguity. The relevant focus is on the applicant's statements to the examiner and their understanding at the time of the exchange. Based on these statements, there is no ambiguity that would preclude the application of prosecution history disclaimer.

Presto further argues that Respondents are improperly equating "hook length" with the length of slider. (CRB at 27.) Presto argues that the annotated figures provided by Respondents show this. (*Id.*) The ALJ disagrees. Respondents and Staff have stated that the "hook length" is the length of the hook construction opposite the slider's top wall. (RIB at 52; SIB at 39-41.) Indeed, Presto states that this is Respondents and Staff's proposed construction in its own initial brief. (CIB at 53 (Table with proposed claim constructions). Moreover, Respondents and Staff repeatedly cite to figures in the patent and statements made by the applicant in support of its proposed construction. The figures that Presto cites in support of its arguments simply show the application of Respondents' and Staff's proposed claim construction to Respondents' products, wherein the length of the slider happens to coincide with the hook length. This application does not alter the claim construction proposed by Respondents and Staff from the entire continuous length of the hook construction to simply the length of the slider.

Therefore, the ALJ finds that the claim term means each 'engagement surface' must extend continuously along the entire 'hook length' of the 'hook construction' without discontinuities, ribs or shoulders of the kind disclosed in the prior art Porchia '285 patent and where the 'hook length' is the length of the 'hook construction' opposite the top wall.

## PUBLIC VERSION

**2. “deflection surface positioned on an interior surface of said first/second hook construction at said first end and position at an angle of about 40 to 50 degrees from said top wall”**

The issues surround this claim term are focused on two disputes: (1) whether a deflection surface can be any angled surface or if it has a specific function and (2) whether “about 40 to 50 degrees” can encompass around 30 to 60 degrees. The parties are split on their proposed constructions: Presto and Staff argue that the “deflection surface” cannot be any angled surface as proposed by Respondents; however, Respondents and Staff agree that “about 40 to 50 degrees” cannot encompass around 30 to 60 degrees as proposed by Presto. (CIB at 58-63; RIB at 44-51; SIB at 35-38.)

**a. “deflection surface”**

The ALJ finds that “deflection surface” means that the deflection surfaces have the mechanical function of deflecting the hook construction away from the zipper profile to facilitate mounting of the slider during manufacture and aiding in aligning the slider onto the closure mechanism.

The ALJ finds that the specification supports this construction. Specifically, the specification states that the deflection surfaces states:

The first and second hook constructions have lower deflection surfaces, for example, to **facilitate mounting of the slider device** onto a zipper closure mechanism. The deflection surfaces also aid in aligning the slider device onto the closure mechanism.

(JX-0002 at 1:53-57) (emphasis added) (*See also* JX-0002 at Abstract (“the first and second hook constructions have sloped or tapered surfaces that **facilitate mounting of the slider device** on a reclosable closure construction.”) (emphasis added).

## PUBLIC VERSION

In addition, the prosecution history supports this construction. During prosecution, these deflection surfaces were used to overcome the Porchia '258 Patent. The applicant overcame the prior art by explaining that the deflection surfaces are used for facilitating mounting of the slider device during manufacture: “the distal ends of the closure mechanism are forced against the deflection surfaces, causing the hook constructions to deflect, thus allowing the slider device to be placed onto the closure mechanism.” (JX-0006 at JX-0006.0376-0377). Thus, the applicant and the examiner agreed that the claimed “*deflection* surfaces” have the mechanical function of deflecting the hook constructions away from the zipper profile to facilitate mounting of the slider device during manufacture. (*Id.* at JX-0006.0376).

Respondents argue, however, that any angled surface can be a “deflection surface.” (RIB at 44-45.) The ALJ finds such a construction is not supported by the specification or the prosecution history. Indeed, such a construction is not supported by the claims because by stating that any angled surface is a “deflection” surface, Respondents have read a vital word out of the claim—“deflection.” This is contrary to the specification and prosecution history which both evidence that the word “deflection” carries substantial weight and meaning. *Becton, Dickinson and Co. v. Tyco Healthcare Group, LP*, 616 F.3d 1249, 1257 (Fed. Cir. 2010) (claim construction must give effect to “all terms in the claim”); *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006) (“[Arguing] physical structures and characteristics specifically described in a claim are merely superfluous would render the scope of the patent ambiguous, leaving examiners and the public to guess about which claim language the drafter deems necessary to his claimed invention....”); *see also Unique Concepts, Inc. v. Brown*, 939 F.2d 1558, 1563 (Fed. Cir. 1991) (“When the language of a claim is clear, as here, and a different

## PUBLIC VERSION

interpretation would render meaningless express claim limitations, we do not resort to speculative interpretation based on claims not granted.”).

Therefore, the ALJ finds that that “deflection surface” means that the deflection surfaces have the mechanical function of deflecting the hook construction away from the zipper profile to facilitate mounting of the slider during manufacture and aiding in aligning the slider onto the closure mechanism.

**b. “about 40 to 50 degrees”**

The ALJ finds that “about 40 to 50 degrees” does not encompass 30 to 60 degrees. First, the claim language, in light of the specification, supports such a construction. Specifically, the claims recite an angle of “about 40 to 50 degrees” despite disclosing deflection surface angles of “about 30 to 60 degrees” in the specification, which states:

This angle between either extended imaginary line and top wall 54 is about 30 to 60 degrees, typically about 40 to 50 degrees, and preferably about 45 degrees. In other words, deflection surfaces 81, 83 form an angle of about 30 to 60 degrees, typically about 40 to 50 degrees, and preferably about 45 degrees to a plane parallel to top wall 54.

(JX-0002 at 8:9-22) The applicant’s motivation in not claiming about 30 to 60 degrees disclosed in the specification is not known. However, what is clear in the record is that the applicant was aware of the about 30 to 60 degrees deflection surface angles, but ultimately chose to only claim deflection surface angles of about 40 to 50 degrees. It is the claims that define the invention, not the specification. *Philips*, 415 F.3d at 1312 (“It is a “bedrock principle” of patent law that “the claims of a patent define the invention to which the patentee is entitled the right to exclude.””) (citations omitted).

In addition, the prosecution history supports this construction. During prosecution, the applicant expressly asserted that deflection angles in the range of “about 40 to 50 degrees” distinguished their invention from the Porchia ’285 Patent. The applicant stated:

## PUBLIC VERSION

[T]here is no suggestion in the Porchia patent to have deflection surfaces positioned at **an angle of 40 to 50** to the top wall.

\*\*\*\*

The Porchia patent is lacking, at least, any suggestion of continuous hook constructions having a deflection surface with the deflection surface positioned at **40 to 50 degrees**. Withdrawal of this rejection is requested.

(JX-0006.0377-78.) Based on the applicant's statements, the claim was allowed.

Presto argues that these statements show that the applicant distinguished the invention not based on the specific 40 to 50 degree angle, but on the mechanical functionality of the deflection surfaces. (CIB at 62.) Presto argues that there was no clear and unambiguous surrender of angles outside of the 40 to 50 degree range. (*Id.*)

The ALJ finds Presto's arguments unpersuasive. The statements made by the applicant to distinguish it over the Porchia '285 Patent specifically limited the deflection surface angles to "about 40 to 50 degrees," despite the specification's disclosure of deflection surface angles of about 30 to 60 degrees. The ALJ finds no ambiguity in the applicant's statement that "[t]he Porchia patent is lacking, at least, any suggestion of continuous hook constructions having a deflection surface with the deflection surface positioned at 40 to 50 degrees. Withdrawal of this rejection is requested." The applicant distinguished his invention from the Porchia '285 Patent based specifically on the deflection surface angles of "about 40 to 50 degrees" and not merely on the "mechanical functionality" of the deflection surface angles. These statements, combined with the specific range claimed in the claims of the '002 Patent, shows that "about 40 to 50 degrees" does not encompass about 30 to 60 degrees.

Therefore, the ALJ finds that "about 40 to 50 degrees" does not encompass about 30 to 60 degrees.

## PUBLIC VERSION

**E. The '443 Patent**

One claim term is in dispute in this investigation with respect to the '443 Patent. (*See* CIB at 99-101; RIB at 79-89; SIB at 56-60.) In the claim limitation, there are two terms that are the primary focus of the claim construction dispute: “spreader” and “channel”.

The following lists the parties' proposed claim construction for the disputed term(s). (*Id.*)

| '443 Claim Term   | Staff  | Complainants   | Respondents  |
|---|--|--|--|
| spreader for separating the first and second closure profiles, the spreader depending from the top wall, the spreader having a channel therethrough | “spreader”: the portion of the slider that spreads apart the closure mechanisms (zipper) to open the bag | a protrusion or series of protrusions on the underside of the slider that contributes to spreading the zipper profiles | <p>a structure, depending from the top wall, that functions to push apart the closure profiles and has an opening the entire length of the structure</p> <p>“spreader”: the portion of the slider that spreads apart the closure mechanisms (zipper) to open the bag</p> <p>“channel”: a passage through the spreader, which extends the length of the spreader, that runs substantially parallel to the upper flanges of the closure profiles</p> |

The parties argue that the plain and ordinary meaning should be adopted, but disagree over the actual plain and ordinary meaning. Presto argues that the claim term should be construed to mean a “protrusion or series of protrusions depending from the top wall of the slider that contributes to spreading the zipper profiles and have a channel therethrough.” (CIB at 93.)

## PUBLIC VERSION

Respondents and Staff argues that it means “the portion of the slider that spreads apart the closure mechanisms (zipper) to open the bag.” (RIB at 83; SIB at 57.) Respondents further state the claim limitation in its entirety should be construed to mean “a structure, depending from the top wall, that functions to push apart the closure profiles and had an opening the entire length of the structure.” (RIB at 89.)

The ALJ finds that the “spreader” means the portion of the slider that spreads apart the closure mechanisms (zipper) to open the bag. The specification and claims supports this construction. Claim 1 states:

A resealable bag comprising:

(a) first and second panel sections joined together to define an enclosed region, first and second opposite side edges, a bottom and a mouth that provides access to the enclosed region;

(b) a closure mechanism comprising first and second closure profiles;

(i) the first closure profile comprising a first base strip and a first upper flange, the first base strip having a first interlocking member extending therefrom;

(ii) the second closure profile comprising a second base strip and a second upper flange, the second base strip having a second interlocking member extending therefrom;

(iii) the first and second interlocking members constructed and arranged to selectively interlock;

(c) a slider device for selectively opening and closing the closure mechanism, the slider device comprising:

(i) a top wall and a pair of side walls, the top wall and side walls defining a cavity sized to receive the first and second upper flanges;

(ii) **a spreader for separating the first and second closure profiles, the spreader depending from the top wall, the spreader having a channel therethrough; and**



PUBLIC VERSION

(d) wherein the first and second upper flanges are positioned in the channel through the spreader.

(JX-0003 at claim 1) (emphasis added). Indeed, claim 1 specifically describes the spreader as (1) being part of the slider device; (2) depending from the top wall of the slider; (3) separating the first and second closure profiles; (4) with a channel therethrough where the bags are positioned in the channel through the spreader. (*Id.*)

Similarly, the specification supports the construction as it describes the spreader in a nearly identical manner:

The slider also comprises **a spreader for separating the first and second closure profiles, the spreader depending from the top wall of the slider.** The spreader has a channel through which the first and second upper flanges may pass as the slider is moved along the closure mechanism. The method further comprises attaching the slider to the closure mechanism while the first and second closure profiles are at least partially disengaged, wherein the first and second upper flanges are both positioned in the channel through the spreader.

(JX-0003 at 2:13-22) (emphasis added).

The slider further comprises **a spreader for separating the first and second closure profiles, the spreader depending from the top wall. The spreader has a channel therethrough, and the first and second upper flanges are positioned within the channel.**

(*Id.* at 2:49-53 and 3:1-5) (emphasis added).



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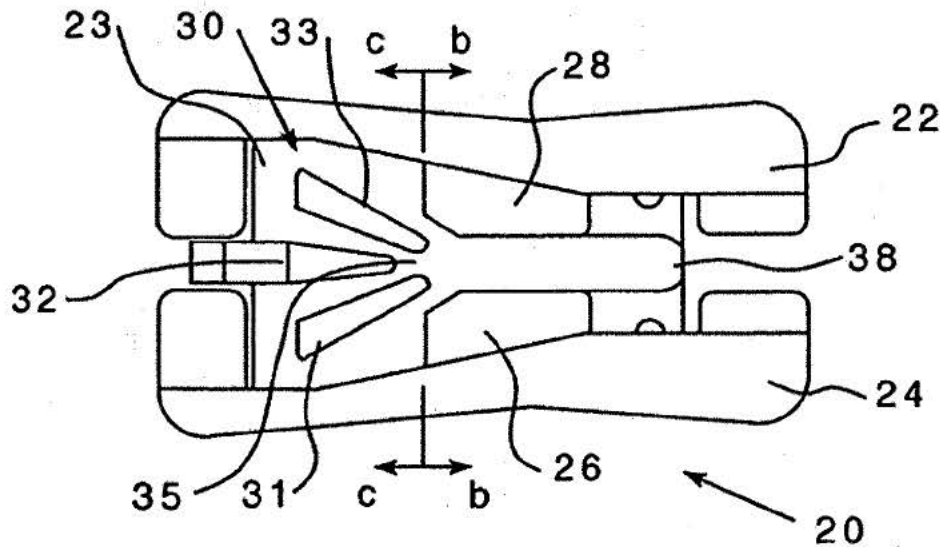


FIG. 3a

(JX-0003 at Figure 3a.)

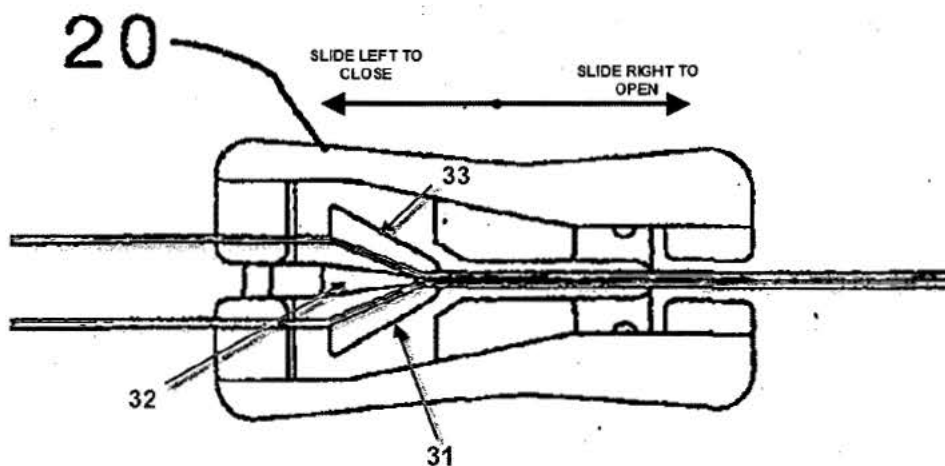
The slider 20 also includes a spreader 30 that functions to push apart the closure profiles 130, 131 as the slider is moved in a direction opposite the first direction along the closure mechanism 114. In the embodiment illustrated in FIGS. 3 a– 3 c, the spreader 30 comprises two flanges 31, 33, both depending from the top wall 23 of the slider 20. **The two flanges 31, 33 are sized and arranged such that when the slider 20 is moved in the direction opposite the first direction along the closure mechanism 114, the upper flanges 184, 185 are forced to pass around the spreader 30. In this manner, the interlocking closure members 134, 135 are forced to disengage, thereby opening closure mechanism 114.**

(*Id.* at 5:58-6:2.) Thus, both the claims and the specification describe the spreader as the portion of the slider that spreads apart the closure mechanisms (zipper) to open the bag

Presto argues that Respondents' proposed claim construction is improper because it improperly construes the claim based on what it does not cover. (CIB at 94.) The ALJ disagrees. The claim language itself specifically states that the spreader is "for separating the first and second closure profiles," *i.e.*, for opening the closure mechanism. The requirement that the spreader be used to open the closure mechanism (zipper) is specifically set forth in the claims and not some "exclusionary" claim construction.

## PUBLIC VERSION

Moreover, the ALJ finds Presto's proposed claim construction to be incorrect. First, the language proposed by Presto is vague as best – particularly its proposal that spreader “contribute” to spreading the zipper profiles. Given the specificity with which the '443 Patent's disclosure describes the spreader, *i.e.*, “separating the first and second closure profiles,” the ALJ finds little clarity is added by using the word “contribute” to the meaning of the claim. Indeed, rather than provide meaning to the claim term, it appears to obfuscate it. This “muddying of waters” becomes all the more clear given Presto's arguments. Presto argues that, in addition to the flanges 31 (identified in the specification as comprising the spreader), “protrusion” 32 is also part of the spreader:



(CIB at 95.) However, the specification specifically states that “the second finger 32 will abut or engage the seal region 156 (as shown in FIG. 5 a) to inhibit the slider 20 from sliding off the resealable package 110 as the slider 20 is moved in a direction effective to close the closure mechanism 114.” (JX-0003 at 6:24-28.) The spreader preferred embodiment does not include

## PUBLIC VERSION

finger 32 and, indeed, Presto cites to nothing in the patent itself that supports such a construction, but instead relies on the testimony of its expert. (*See generally* CIB at 93-98.)

Therefore, the ALJ finds that “spreader” means the portion of the slider that spreads apart the closure mechanisms (zipper) to open the bag.

## V. INFRINGEMENT DETERMINATION

### A. Applicable Law

In a Section 337 investigation, the complainant bears the burden of proving infringement of the asserted patent claims by a preponderance of the evidence. *Certain Flooring Products*, Inv. No. 337-TA-443, Commission Notice of Final Determination of No Violation of Section 337, 2002 WL 448690 at 59, (March 22, 2002); *Enercon GmbH v. Int’l Trade Comm’n*, 151 F.3d 1376 (Fed. Cir. 1998).

Each patent claim element or limitation is considered material and essential. *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538 (Fed. Cir. 1991). Literal infringement of a claim occurs when every limitation recited in the claim appears in the accused device, *i.e.*, when the properly construed claim reads on the accused device exactly. *Amhil Enters., Ltd. v. Wawa, Inc.*, 81 F.3d 1554, 1562 (Fed. Cir. 1996); *Southwall Tech. v. Cardinal IG Co.*, 54 F.3d 1570, 1575 (Fed Cir. 1995).

If the accused product does not literally infringe the patent claim, infringement might be found under the doctrine of equivalents. The Supreme Court has described the essential inquiry of the doctrine of equivalents analysis in terms of whether the accused product or process contains elements identical or equivalent to each claimed element of the patented invention. *Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 40 (1997).

## PUBLIC VERSION

Under the doctrine of equivalents, infringement may be found if the accused product or process performs substantially the same function in substantially the same way to obtain substantially the same result. *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 1043 (Fed. Cir. 1993). The doctrine of equivalents does not allow claim limitations to be ignored. Evidence must be presented on a limitation-by-limitation basis, and not for the invention as a whole. *Warner-Jenkinson*, 520 U.S. at 29; *Hughes Aircraft Co. v. U.S.*, 86 F.3d 1566 (Fed. Cir. 1996). Thus, if an element is missing or not satisfied, infringement cannot be found under the doctrine of equivalents as a matter of law. See, e.g., *Wright Medical*, 122 F.3d 1440, 1444 (Fed. Cir. 1997); *Dolly, Inc. v. Spalding & Evenflo Cos., Inc.*, 16 F.3d 394, 398 (Fed. Cir. 1994); *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538-39 (Fed. Cir. 1991); *Becton Dickinson and Co. v. C.R. Bard, Inc.*, 922 F.2d 792, 798 (Fed. Cir. 1990).

The concept of equivalency cannot embrace a structure that is specifically excluded from the scope of the claims. *Athletic Alternatives v. Prince Mfg., Inc.*, 73 F.3d 1573, 1581 (Fed. Cir. 1996). In applying the doctrine of equivalents, the Commission must be informed by the fundamental principle that a patent's claims define the limits of its protection. See *Charles Greiner & Co. v. Mari-Med. Mfg., Inc.*, 92 F.2d 1031, 1036 (Fed. Cir. 1992). As the Supreme Court has affirmed:

Each element contained in a patent claim is deemed material to defining the scope of the patented invention, and thus the doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole. It is important to ensure that the application of the doctrine, even as to an individual element, is not allowed such broad play as to effectively eliminate that element in its entirety.

*Warner-Jenkinson*, 520 U.S. at 29. Finally, when a patentee discloses but does not claim subject matter, the unclaimed matter is dedicated to the public and cannot be reclaimed under the

## PUBLIC VERSION

doctrine of equivalents. *PSC Computer Products. v. Foxconn Int'l*, 355 F.3d 1353, 1355-6 (Fed. Cir. 2004).

To prove direct infringement, Presto must prove by a preponderance of the evidence that each of the accused products either literally infringe or infringe under the doctrine of equivalents the asserted claims of the asserted patents. *Advanced Cardiovascular Sys., Inc. v. Scimed Life Sys., Inc.*, 261 F.3d 1329, 1336 (Fed. Cir. 2001).

A party can also indirectly infringe a patent. To prevail on a claim for indirect infringement, a patentee must first demonstrate direct infringement, and then establish that the “defendant possessed the requisite knowledge or intent to be held vicariously liable.” *Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1272–73 (Fed. Cir. 2004). The knowledge requirement must be met by a showing of either actual knowledge or willful blindness. *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2068 (2011).

Under 35 U.S.C. § 271(b), “[w]hoever actively induces infringement of a patent shall be liable as an infringer.” “To prove induced infringement, the patentee must show direct infringement, and that the alleged infringer knowingly induced infringement and possessed specific intent to encourage another’s infringement.” *Toshiba Corp. v. Imation Corp.*, 681 F.3d 1358, 1363 (Fed. Cir. 2012) (internal quotations omitted).

The Supreme Court has held that “induced infringement under § 271(b) requires knowledge that the induced acts constitute patent infringement.” *Global-Tech*, 131 S. Ct. at 2070. In so holding, the Supreme Court rejected the Federal Circuit’s “deliberate indifference” to a “known risk” test. *Id.* at 2071. It explained that the “knowledge” required under § 271(b) could be satisfied by a showing of actual knowledge or “willful blindness.” *Id.* at 2068–71. The Supreme Court explained that a defendant acts with willful blindness if she “subjectively

## PUBLIC VERSION

believe[s] that there is a high probability that a fact exists” and “take[s] deliberate actions to avoid learning of the fact.” *Id.* at 2070, 2070 n.9. In contrast, a defendant who “merely knows of a substantial and unjustified risk of [ ] wrongdoing” acts recklessly, and a defendant who “should have known of a similar risk, but in fact, did not” acts negligently. *Id.* at 2071. “Inducement requires evidence of culpable conduct, directed to encouraging another’s infringement, not merely that the inducer had knowledge of the direct infringer’s activities.” *DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1306 (Fed. Cir. 2006) (*en banc*).

Under 35 U.S.C. § 271(c), “[w]hoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination, or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be specifically made to or specially adapted for use in the infringement of the patent, and not a staple article or commodity suitable for substantial non-infringing use, shall be liable as a contributory infringer.” “Contributory infringement imposes liability on one who embodies in a non-staple device the heart of a patented process and supplies the device to others to complete the process and appropriate the benefit of the patented invention.” *Vita-Mix Corp. v. Basic Holding, Inc.*, 581 F.3d 1317, 1327 (Fed. Cir. 2009). To state a claim for contributory infringement, an infringer must sell, offer to sell or import into the United States a component of an infringing product “knowing [the component] to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial non infringing use.” 35 U.S.C. § 271(c); *see Lucent Techs. v. Gateway, Inc.*, 580 F.3d 1301, 1320 (Fed. Cir. 2009). As with induced infringement, a claim for contributory infringement must also contain allegations of the requisite knowledge of the patent-in-suit at the time of infringement. *Global-*

**PUBLIC VERSION**

*Tech*, 131 S. Ct. at 2068. In addition, the patentee bears the burden of proving that the accused products have no substantial non-infringing uses. *See Golden Blount, Inc. v. Robert H. Peterson Co.*, 438 F.3d 1354, 1363 (Fed. Cir. 2006).

A seller of a component of an infringing product can also be held liable for contributory infringement in a Section 337 investigation if the complainant can show: (1) there is an act of direct infringement in violation of Section 337; (2) the accused device has no substantial non-infringing uses; and (3) the accused infringer imported, sold for importation, or sold after importation within the United States, the accused components that contributed to another's direct infringement. *Spansion v. U.S. Int'l Trade Comm'n*, 629 F.3d 1331, 1353 (Fed. Cir. 2010).

An underlying act of direct infringement is required to be liable for both induced and contributory infringement. *Limelight Networks v. Akamai Technology*, 134 S. Ct. 2111, 2118 (2014).

**B. The '421 Patent**

Presto argues that Respondents' products literally infringe claim 39 and also infringe under the doctrine of equivalents. (CIB at 29-37.) Presto explains, element by element, how Respondents' accused products meet each limitation of claim 39. (*Id.*)

Respondents only dispute whether they meet following limitations: (1) "positioning a zipper between said first and second wall panels, said zipper including ...and a slider slidably mounted to said zipper..." and (2) "feeding a zipper sheet of said zippers...said sheet of zippers...releasably adhered to each other." (RIB at 28-37.) Respondents do not dispute that they meet any of the other limitations of claim 39. (*See generally* RIB at 28-37.)



PUBLIC VERSION

**1. “positioning a zipper between said first and second wall panels, said zipper including ...and a slider slidably mounted to said zipper...”**

Respondents’ non-infringement arguments relating to this element are dependent on whether the claims require a specific order as they assert. (RIB at 28-30.) Respondents argue that they do not mount sliders to the zippers before positioning and adhering the zippers to the walls of the bags. (RIB at 29.)

As set forth above in Section IV.C.1, the ALJ found that the claims do not require a specific order. Consequently, Respondents’ arguments fail.

**2. “feeding a zipper sheet of said zippers...said sheet of zippers...releasably adhered to each other”**

Presto argues that the accused products literally infringe this claim under its proposed claim construction. (CIB at 32.) Presto further argues that, even if Respondents’ and Staff’s claim constructions are adopted, the accused products still infringe under the doctrine of equivalents. (CIB at 33.) Specifically, Presto argues that the zipper sheet and in-line zipper arrangements are “interchangeable” such that, regardless of whether the zipper sheet or zipper arrangement is used, the process and ultimate result are the same. (CIB at 33-34.) Presto argues that since the process used by Respondents is undisputedly the same as that described in the ’421 Patent, the final result is the same, *i.e.*, the bags have the zipper profiles adhered to it, whether zipper sheets or zipper arrangement are used. (CIB at 33-34.)

Respondents argue that the prosecution history precludes Presto from arguing that the accused products infringe under the doctrine of equivalents. (RIB at 31-36.) Specifically, Respondents argue that by amending original claim 1 and rewriting dependent claim 3 into independent claim 39, Presto may no longer recapture equivalents to the zipper sheet. (RIB at 31-32.) Respondents further argue that zipper sheets and zipper arrangements are two distinct



## PUBLIC VERSION

embodiments as evidenced by the claims of the patents and by the BPAI during reexamination. (RIB at 33-35.)

Staff argues that zipper sheets and zipper arrangements are not interchangeable because Presto cannot enforce an unclaimed embodiment. (SIB at 27.) Staff notes that this distinction is not only supported by the claims, but is also supported by the BPAI's decision during reexamination when it found that the '421 Patent disclosed two different embodiments. (SIB at 27.) Consequently, a zipper sheet is not an equivalent of a zipper arrangement.

The ALJ finds that the accused products do not infringe under the doctrine of equivalents. The ALJ agrees with Respondents that prosecution history estoppel precludes Presto from asserting equivalents of zipper sheets. The record shows that during reexamination, claim 1 was amended from the open ended "comprising" preamble to the closed "consisting essentially of" preamble when claim 3 was rewritten into independent form as claim 39. (JX-0005 at 1534 ("Claims 1, 4, 5, and 19 have been amended. . . . Claims 39-42 have been rewritten as independent claims from original claims 3, 8, 10 and 24."); *Id.* at 1538 ("**Listing of Claims:** 1. (Currently Amended) A method of manufacturing recloseable packages, said method [comprising] consisting essentially of:" and "3. (Cancelled) . . ."); *Id.* at 1569 ("39. (New) . . .").) Consequently, Presto is foreclosed from recapturing equivalents to the "feeding a zipper sheet" step recited in asserted claim 39. *See Builders Concrete, Inc. v. Bremerton Concrete Prods. Co.*, 757 F.2d 255, 260 (Fed. Cir. 1985) ("[T]he prosecution history of all claims is not insulated from review in connection with determining the fair scope of [the asserted claim]. To hold otherwise would be to exalt form over substance and distort the logic of this jurisprudence, which serves as an effective and useful guide to the understanding of patent claims. The fact that the [the limitation in question] was not itself amended during prosecution does not mean that it can be

## PUBLIC VERSION

extended by the doctrine of equivalents to cover the precise subject matter that was relinquished in order to obtain allowance of [another claim].”):

| • <b>Original Claim 1 + Original Claim 3</b>   | • <b>Re-examination Claim 39</b>  |
|--|---|
| <ul style="list-style-type: none"> <li>• 1. A method of manufacturing recloseable packages, said method comprising:               <ul style="list-style-type: none"> <li>• providing a first wall panel opposing a second wall panel;</li> <li>• positioning a zipper between said first and second wall panels, said zipper including a first track with a first profile and a second track with a second profile, said first and second profiles being releasably engageable to each other, and a slider slidably mounted to said zipper for movement between a closed position and an open position, said first and second profiles being engaged to each other while said slider is in said closed position, said first and second profiles being disengaged from each other in response to movement of said slider from said closed position to said open position;</li> <li>• adhering said first profile of said zipper to said first wall panel;</li> <li>• forming first and second spaced side seals in said first and second wall panels to define first and second sidewalls of said package;</li> <li>• adhering said second profile of said zipper to said second wall panel; and</li> <li>• cutting said side seals to separate adjacent packages.</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• 39. A method of manufacturing recloseable packages, said method comprising:               <ul style="list-style-type: none"> <li>• providing a first wall panel opposing a second wall panel;</li> <li>• positioning a zipper between said first and second wall panels, said zipper including a first track with a first profile and a second track with a second profile, said first and second profiles being releasably engageable to each other, and a slider slidably mounted to said zipper for movement between a closed position and an open position, said first and second profiles being engaged to each other while said slider is in said closed position, said first and second profiles being disengaged from each other in response to movement of said slider from said closed position to said open position;</li> <li>• feeding a zipper sheet of said zippers to between said first and second wall panels before positioning said zipper, said sheet of zippers comprising a plurality of said zippers releasably adhered to each other;</li> <li>• adhering said first profile of said zipper to said first wall panel;</li> <li>• forming first and second spaced side seals in said first and second wall panels to define first and second sidewalls of said package;</li> </ul> </li> </ul> |
| <ul style="list-style-type: none"> <li>• 3. The method of claim 1 further including a step of feeding a zipper sheet of said zippers to between said first and second wall panels before positioning said zipper, said sheet of zippers comprising a plurality of said zippers releasably adhered to each other.</li> </ul>  | <ul style="list-style-type: none"> <li>• adhering said second profile of said zipper to said second wall panel; and</li> <li>• cutting said side seals to separate adjacent packages.</li> </ul>  |

Presto argues that there was no clear and unambiguous surrender of the subject matter because the basis of the rejection for claim 2, the McMahon reference, was not prior art. (CIB at

## PUBLIC VERSION

26.) That the McMahon reference was ultimately found not to be prior art does not recapture surrendered subject matter. *Kinzenbaw c. Deere & Co.*, 741 F2d 383, 389 (Fed. Cir. 1984). More importantly, while Presto correctly notes that the McMahon reference was found not to be prior art, it offers no other alternative explanation as to why the amendments were made. *Warner Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 33 (1997) (“[W]e think the better rule is to place the burden on the patent holder to establish the reason for an amendment required during patent prosecution...Where no explanation is established, however, the court should presume that the patent applicant had a substantial reason related to patentability for including the limiting element added by the amendment. In those circumstances, prosecution history estoppel would bar the application of the doctrine of equivalents as to that element.”) As such, the ALJ finds that the amendment during reexamination precludes the application of the doctrine of equivalents.

Even assuming that Presto was not precluded from the equivalents of zipper sheets due to prosecution history estoppel, the ALJ finds that the record fails to support Presto’s argument that zipper sheets and zipper arrangement are interchangeable. As set forth above in Section IV.C.1, the specification and, more importantly, the claims describe and claim two distinct and different embodiments, namely zipper sheets that are releasably adhered to one another and zipper arrangements that are in-line. (JX-0001at claims 2,3,22 and 24; 2:64-3:3; 6:52-7:8; 7:33-41; 7:46-8:15; 8:39-4)). Thus, the ALJ finds that they are not “interchangeable” or “equivalents” of one another as asserted by Presto.

Finally, even if they were considered equivalents, the ALJ finds that the doctrine of equivalents analysis improperly focuses on the end product of the process, a bag with zipper profiles adhered to it, and not the actual process claimed in the ’421 Patent and the process used

## PUBLIC VERSION

by Respondents. *Applied Materials, Inc. v. Advanced Semiconductor Materials Am., Inc.*, 98 F.3d 1563, 1574 (Fed. Cir. 1996) (focusing on whether the accused **process** performs substantially the same function as the patent **process** in substantially the same way to obtain the same result.). The evidence shows that Respondents' process steps do not use the same function, in the same way, to achieve the same result:

[I]n-line or continuous zipper assemblies are assembled and applied to the plastic bags through a substantially different method than zipper sheets. As shown in Figures 5 and 6 below (as well as Figures 3a and 4), the in-line zipper assemblies are dispensed end-to-end and attached to plastic material in a continuous fashion, without necessarily cutting the individual zippers before attaching them. In contrast, Figures 7-10 show that individual zipper assemblies must first be cut and then assembled into "zipper sheets" before they are attached one-by-one to the plastic bags. The use of zipper coils versus zipper sheets would require other substantial modifications to the timing, coordination, and other aspects of the assembly. Thus, these two methods perform substantially different functions (applying zippers continuously versus applying zippers one-by-one) in substantially different ways (using coils of in-line zippers versus using rolls of zipper sheets), even if the final bags are seemingly alike.

(RX-0185C at Q&A 88.) Moreover, the continuously extruded zippers used in Respondents' process are substantially different from the "releasably adhered" zipper segments claimed in claim 39. (*Id.* at Q&A 91.) The '421 Patent expressly describes the difference between zippers that are "releasably adhered" as zipper segments that have been cut and reattached (JX-0001 at 7:33-8:40) from continuous, in-line zipper arrangements (JX-0001 at 6:20-7:21.)

Therefore, for the reasons set forth above, the ALJ finds that Respondents do not literally infringe claim 39 or infringe under the doctrine of equivalents.

### C. The '002 Patent

Presto argues that Respondents' Accused Products literally infringe claim 1 and also infringe under the doctrine of equivalents. (CIB at 63-75.) Presto explains, element by element, how Respondents' accused products meet each limitation of claim 1. (*Id.*)

## PUBLIC VERSION

Respondents only dispute whether they meet following limitations: (1) “a [first/second] engagement surface to engage said [first/second] closure profile, the [first/second] engagement surface extending the hook length” and (2) “deflection surface positioned on an interior surface of said [first/second] hook construction at said first end and position at an angle of about 40 to 50 degrees from said top wall” (RIB at 58-63.) Respondents do not dispute that they meet any of the other limitations of claim 1. (*See generally* RIB at 58-63.)

**1. “a [first/second] engagement surface to engage said [first/second] closure profile, the [first/second] engagement surface extending the hook length”**

Presto argues that the Accused Products have uninterrupted engagement surfaces from one end of the hook construction to the other.<sup>2</sup> (CIB at 72-73.) Specifically, Presto argues that each single hook on the Accused Products is the hook construction and that within this “hook construction” the engagement surface is continuous. (CIB at 73.) Consequently, each of Respondents Accused Products will have four separate hook constructions under Presto’s application of the adopted claim construction. The ALJ finds that this arguments fails for the same reasons set forth in Section IV.D.1, namely that the engagement surface must extend continuously along the hook length, which is the length of the hook construction opposite the top wall.

The ALJ finds that the evidence shows that the Accused Products do not meet this limitation. The evidence shows that the Accused Products have narrow shoulder structures. (RX-0185C at Q&A 155.) Specifically, the evidence shows that the engagement surfaces for the shoulder structures do not continuously extend the entire “hook length” of the slider, rather, the engagement surface only partially extends along the “hook length” of the slider. (*Id.*) As

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<sup>2</sup> Presto makes no arguments under the doctrine of equivalents for this specific limitation.

## PUBLIC VERSION

Respondents and Staff note, the shoulders in the Accused Products are similar to those disclosed in the Porchia '285 Patent, which the applicant specifically disclaimed during prosecution noting that "the shoulders [...] are not continuous along the length; rather two discontinuous shoulders exist." (JX-0006 at JX.0006.0377.)

**2. "deflection surface positioned on an interior surface of said [first/second] hook construction at said first end and position at an angle of about 40 to 50 degrees from said top wall"**

Presto argues that the Accused Products meet this limitation under the doctrine of equivalents. (CIB at 67-72.) Specifically, Presto argues that while the Accused Products deflections surface is not measure relative to the top wall, but instead is measured relative to the opposite wall, the deflection surface in the Accused Products perform substantially the same function (to deflect the slider away from the zipper and guide the zipper) in substantially the same way (using a tapered surface) to achieve substantially the same result (facilitating the mounting of the slider device). (CIB at 68-72.)

The ALJ finds that the Accused Products do not infringe claim 1 either literally or under the doctrine of equivalents. The evidence shows that the deflection surfaces are actually positioned at an angle of about 45 degrees with respect to the adjacent, and not the top wall, as required by claim 1. (CX-0030C at Q&A 114.)

The ALJ finds that the Accused Products do not infringe claim 1 under the doctrine of equivalents. The record shows Presto is barred under prosecution history estoppel from capturing equivalence of this limitation because of arguments the applicant made during prosecution to overcome double patenting and prior art rejections. (RX-0185C, Q&A 149.) First, in overcoming a double patenting rejection over U.S. Patent No. 6,293,701 ("the '701 Patent), the applicant argued that



## PUBLIC VERSION

There is no claim in the '701 patent that recites a deflection surface or similar structure on the slider device. Still further, there is no claim in the '701 patent that recites a deflection surface positioned at any angle, **much less at an angle of about 40 to 50 degrees, from the top wall.**

(JX-0006 at JX-0006.376) (emphasis added). The applicant relied on the angle provided relative to the top wall as a patentable feature over the prior art '701 Patent. Second, the applicant requested withdrawal of the rejection over the Porchia '285 Patent arguing that

[T]here is no suggestion in the Porchia patent to have deflection surfaces **positioned at an angle of 40 to 50 to the top wall.** The Porchia patent merely illustrates, in its figures, surfaces angled to the top wall. There is no discussion regarding the use of such surfaces.

The Porchia patent is lacking, at least, any suggestion of continuous hook construction **having a deflection surface with the deflection surface positioned at 40 to 50 degrees.** Withdrawal of this rejection is requested.

(*Id.* at JX-0006.0377-78 (emphasis added).) This statement expressly requests withdrawal of the rejection based in part on the fact that Porchia does not disclose a 40 to 50 degree angle as measured from the top wall. The arguments and amendments were accepted and the claims were allowed. (*Id.* at JX-0006.0388-89.) Consequently, Presto is estopped from arguing infringement under the doctrine of equivalents for his claim limitation.

Moreover, as Respondents correctly note, there is also no equivalence of the 90-degree angle between the so-called deflection surface and the top wall of the accused products and the "about 40 to 50 degrees from said top wall" recited in claim 1. (RX-0185C at Q&A 149.) Presto's doctrine of equivalents arguments are so broad that they read the term "deflection surface ... positioned at an angle of about 40 to 50 degrees from said top wall" out of claim 1. Without using the top wall identified in the claim as the frame of reference, the 40 to 50 degree angle is entirely arbitrary.

**PAGE CONTAINS CONFIDENTIAL BUSINESS INFORMATION**

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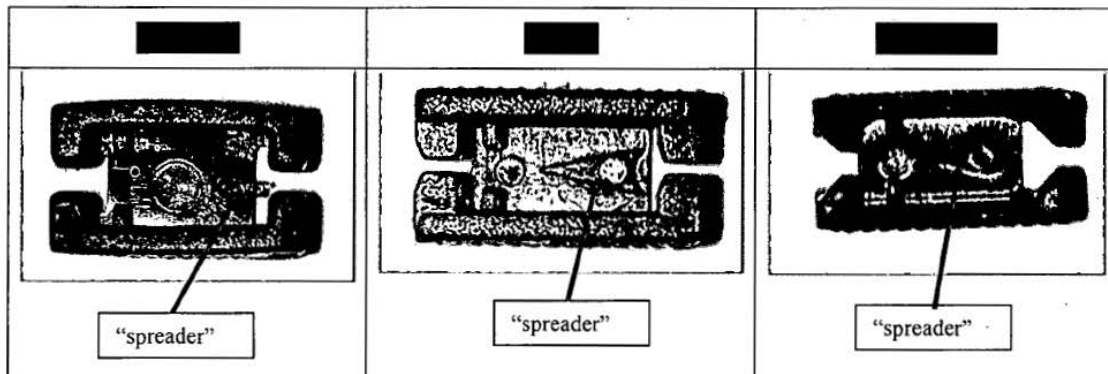
Therefore, the ALJ finds that the Accused Products do not infringe claim 1 either literally or under the doctrine of equivalents.

**D. The '443 Patent**

Presto argues that the Accused Products infringe claim 1. (CIB at 101-109.) Presto makes no doctrine of equivalents argument for this claim limitation.

Respondents only dispute whether they meet “channel therethrough” limitation of the claim. (RIB at 89-91.) Respondents do not dispute that they meet any of the other limitations of claim 39. (*See generally* RIB at 89-93.) Staff agrees that the Accused Products do not meet the “channel therethrough” limitation. (SIB at 60-64.)

The ALJ finds that the Accused Products do not meet the “channel therethrough” limitation. The evidence shows that the “spreader” in the Accused Products are molded as closed, one-piece structures. (RX-0185C at Q&A 196; Tr. 47:18-48:6.) These “spreaders” are shaped either as v-shaped wedges or thin rectangles.



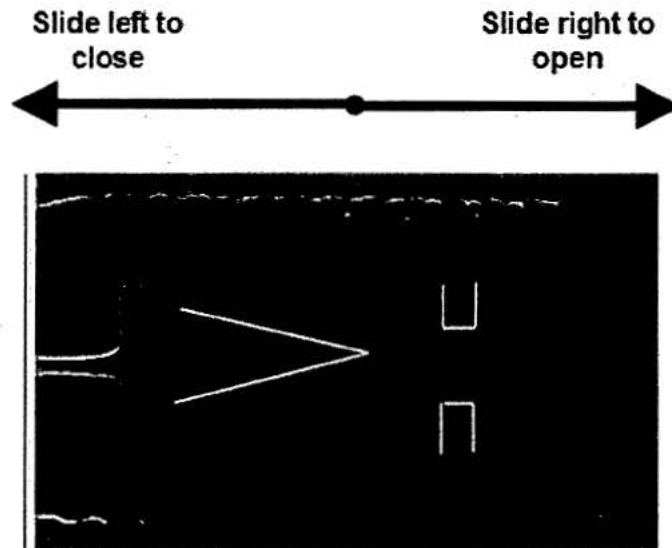
(*See* RX- 0185C at Q&A 196.)

As further evidenced in the photos, the spreader does not have a “channel therethrough.”



## PUBLIC VERSION

Presto argues that the “spreader” is the molded portion with the additional rectangular shapes (outlined in yellow in the picture below):



Presto argues that since the rectangular portions are part of the spreader, then the upper flanges of the zipper “flow through the channel” (identified by the black arrow). Presto asserts that this configuration aligns with the configuration it identified as the “spreader” in the ’443 Patent. (CIB at 104-5.)

The ALJ finds Presto’s arguments unpersuasive. First, as set forth *supra* in Section IV.E, the ALJ declined to adopt Presto’s claim construction. Second, the rectangular portions identified by Presto are not part of the spreader, but instead are analogous to the ribs identified in the ’443 Patent. The specification discloses ribs that function to force the zipper together. (JX-0003 at 5:47-50.) Similarly, the evidence shows that the rectangular portions identified by Presto force the closure profiles together – they are not part of the spreader. (Tr. 153:18-154:5.)

## PUBLIC VERSION

Therefore, the ALJ finds that the Accused Products do not infringe claim 1 of the '443 Patent.

## VI. VALIDITY

### A. Burden of Proof

One cannot be held liable for practicing an invalid patent claim. *See Pandrol USA, LP v. AirBoss Railway Prods., Inc.*, 320 F.3d 1354, 1365 (Fed. Cir. 2003). However, the claims of a patent are presumed to be valid. 35 U.S.C. § 282; *DMI Inc. v. Deere & Co.*, 802 F.2d 421 (Fed. Cir. 1986). Although a complainant has the burden of proving a violation of section 337, it can rely on this presumption of validity.

Respondents have the burden of proving invalidity of the patent. This “burden is constant and never changes and is to convince the court of invalidity by clear evidence.” *i4i v. Microsoft Corp.*, 131 S. Ct. 2338, 2243 (2010) (citing Judge Rich in *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F. 2d 1350, 1360 (CA Fed. 1984)). Respondents’ burden of persuasion *never shifts*. *Id.* The risk of “decisional uncertainty” remains on the respondent. *Technology Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1327 (Fed. Cir. 2008); *see also PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1303, 1305 (Fed. Cir. 2008); *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1360 (Fed. Cir. 2007). Thus, it is Respondent’s burden to prove by clear and convincing evidence that any of the alleged prior art references anticipate or render obvious the asserted claims of the patents in suit. Failure to do so means that Respondents lose on this point. *Id.* (stating, “[I]f the fact trier of the issue is left uncertain, the party with the burden [of persuasion] loses.”).

Respondents also bear the burden of going forward with evidence, *i.e.*, the burden of production. *Id.* This is “a shifting burden the allocation of which depends on where in the

## PUBLIC VERSION

process of a trial the issue arises.” *Id.* However, this burden does not shift until a respondent presents “evidence that might lead to a conclusion of invalidity.” *Pfizer*, 480 F.3d at 1360. Once a respondent “has presented a prima facie case of invalidity, the patentee has the burden of going forward with rebuttal evidence.” *Id.*

### B. Anticipation

A patent may be found invalid as anticipated under 35 U.S.C. § 102(a) if “(1) the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention; or (2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention. 35 U.S.C. § 102(a). Pursuant to 35 U.S.C. § 102(b),

**(1) Disclosures made 1 year or less before the effective filing date of the claimed invention.**--A disclosure made 1 year or less before the effective filing date of a claimed invention shall not be prior art to the claimed invention under subsection (a)(1) if--

(A) the disclosure was made by the inventor or joint inventor or by another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor; or

(B) the subject matter disclosed had, before such disclosure, been publicly disclosed by the inventor or a joint inventor or another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor.

**(2) Disclosures appearing in applications and patents.**--A disclosure shall not be prior art to a claimed invention under subsection (a)(2) if--

(A) the subject matter disclosed was obtained directly or indirectly from the inventor or a joint inventor;

(B) the subject matter disclosed had, before such subject matter was effectively filed under subsection (a)(2), been publicly disclosed by the inventor or a joint inventor or another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor; or

(C) the subject matter disclosed and the claimed invention, not later than the effective filing date of the claimed invention, were owned by the same person or subject to an obligation of assignment to the same person

## PUBLIC VERSION

35 U.S.C. § 102(b). Anticipation is a question of fact. *Texas Instruments, Inc. v. U.S. Int'l Trade Comm'n*, 988 F.2d 1165, 1177 (Fed. Cir. 1993) (“*Texas Instruments II*”). Anticipation is a two-step inquiry: first, the claims of the asserted patent must be properly construed, and then the construed claims must be compared to the alleged prior art reference. *See, e.g., Medichem, S.A. v. Rolabo, S.L.*, 353 F.3d 928, 933 (Fed. Cir. 2003). It is axiomatic that claims are construed the same way for both invalidity and infringement. *W.L. Gore v. Garlock, Inc.*, 842 F.2d 1275, 1279 (Fed. Cir. 2008.)

“Claimed subject matter is ‘anticipated’ when it is not new; that is, when it was previously known. Invalidation on this ground requires that *every element and limitation* of the claim was *previously described in a single prior art reference*, either *expressly or inherently*, so as to place a person of ordinary skill in possession of the invention.” *Sanofi-Synthelabo v. Apotex, Inc.*, 550 F.3d 1075, 1082 (Fed. Cir. 2008) (emphasis added) (citing *Schering Corp. v. Geneva Pharms., Inc.*, 339 F.3d 1373, 1379 (Fed. Cir. 2003) and *Continental Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1267-69 (Fed. Cir. 1991)).

To anticipate, a single prior art reference must be enabling and it must describe the claimed invention, *i.e.*, a person of ordinary skill in the field of the invention must be able to practice the subject matter of the patent based on the prior art reference without undue experimentation. *Sanofi*, 550 F.3d at 1082. The presence in said reference of *both* a specific description and enablement of the subject matter at issue are required. *Id.* at 1083.

To anticipate, a prior art reference also must disclose all elements of the claim within the four corners of said reference. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008); *see also Abbott Labs. v. Sandoz, Inc.*, 544 F.3d 1341, 1345 (Fed. Cir. 2007) (stating, “Anticipation is established by documentary evidence, and requires that every claim element and

## PUBLIC VERSION

limitation is set forth in a single prior art reference, in the same form and order as in the claim.”). Further, “[b]ecause the hallmark of anticipation is prior invention, the prior art reference—in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements ‘arranged as in the claim.’” *Id.* (quoting *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983)). The Federal Circuit explained this requirement as follows:

The meaning of the expression ‘arranged as in the claim’ is readily understood in relation to claims drawn to things such as ingredients mixed in some claimed order. In such instances, a reference that discloses all of the claimed ingredients, but not in the order claimed, would not anticipate, because the reference would be missing any disclosure of the limitations of the claimed invention ‘arranged as in the claim.’ But the ‘arranged as in the claim’ requirement is not limited to such a narrow set of ‘order of limitations’ claims. Rather, *our precedent informs that the ‘arranged as in the claim’ requirement applies to all claims and refers to the need for an anticipatory reference to show all of the limitations of the claims arranged or combined in the same way as recited in the claims, not merely in a particular order.* The test is thus more accurately understood to mean ‘arranged or combined in the same way as in the claim.’

*Id.* at 1370 (emphasis added). Therefore, it is not enough for anticipation that a prior art reference simply contains all of the separate elements of the claimed invention. *Id.* at 1370-71 (stating that “it is not enough [for anticipation] that the prior art reference discloses part of the claimed invention, which an ordinary artisan might supplement to make the whole, or that it includes multiple, distinct teachings that the artisan might somehow combine to achieve the claimed invention.” (emphasis added)). Those elements must be arranged or combined in said reference in the same way as they are in the patent claim.

If a prior art reference does not expressly set forth a particular claim element, it still may anticipate the claim if the missing element is inherently disclosed by said reference. *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295 (Fed. Cir. 2002); *In re Robertson*, 169

## PUBLIC VERSION

F.3d 743, 745 (Fed. Cir. 1999). Inherent anticipation occurs when “the missing descriptive material is ‘necessarily present,’ not merely probably or possibly present, in the prior art.” *Id.* In other words, inherency may not be established by probabilities or possibilities. *See Continental Can*, 948 F.2d at 1268. Thus, “[t]he mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *Id.*

The critical question for inherent anticipation here is whether, as a matter of fact, practicing an alleged prior art reference necessarily features or results in each and every limitation of the asserted claim at issue. *See, e.g., Toro Co. v. Deere & Co.*, 355 F.3d 1313, 1320 (Fed. Cir. 2004).

If there are “slight differences” between separate elements disclosed in a prior art reference and the claimed invention, those differences “invoke the question of obviousness, not anticipation.” *NetMoneyIN*, 545 F.3d at 1071; *see also Trintec*, 295 F.3d at 1296 (finding no anticipation and stating that “the difference between a printer and a photocopier may be minimal and obvious to those of skill in this art. Nevertheless, obviousness is not inherent anticipation.”). Statements such as “one of ordinary skill may, in reliance on the prior art, complete the work required for the invention,” and that “it is sufficient for an anticipation if the general aspects are the same and the differences in minor matters is only such as would suggest itself to one of ordinary skill in the art,” *actually relate to obviousness*, not anticipation. *Connell*, 722 F.2d at 1548.

### 1. The '421 Patent

Respondents argue that the '421 Patent is invalid in view of U.S. Patent No. 5,525,363 under Presto's proposed claim construction. (RIB at 38-42.) Respondents' invalidity arguments are limited only to using Presto's claim construction, specifically that the zipper sheets includes in-line zippers. However, as set forth above in Section IV.C.2., the ALJ declined to adopt



## PUBLIC VERSION

Presto's claim construction that the zipper sheets and claim 39 encompassed in-line zippers. Therefore, the ALJ finds that claim 37 of the '421 Patent is not invalid.

## 2. The '002 Patent

Respondents argue that the '002 Patent is invalid in view of U.S. Patent No. 5,836,056 ("the Porchia '056 Patent"), which was issued to Porchia. (RIB at 71-74.) There is not dispute that the Porchia '056 Patent is prior art. (RIB at 71; CIB at 84-89; SIB at 51.) Moreover, as conceded by Respondents' experts, the Porchia '056 Patent does not contain any material disclosures that were not already disclosed in the Porchia '285 Patent. (Tr., 180:2-6.)

The ALJ finds that Respondents have failed to show by clear and convincing evidence that the Porchia '056 Patent discloses each and every element of claim 1. Specifically, the ALJ finds that the Porchia '056 Patent fails to disclose the "deflection surface positioned on an interior surface of said [first/second] hook construction at said first end and position at an angle of about 40 to 50 degrees from said top wall" limitation because it fails to disclose deflection surfaces angled at about 40 to 50 degrees. While the Porchia '056 Patent discloses shoulders with deflection surfaces, it does not disclose the angles of the deflection surfaces. (*See generally* JX-0066.) Respondents' conclusory statement that the Porchia '056 Patent discloses a 45 degree deflection surface angle without specific cites to the specification or claims of the Porchia '056 Patent are insufficient to meet the clear and convincing burden. Moreover, as set forth *supra* in Sections IV.D.2 and V.C.2, the applicant specifically distinguished its invention over the Porchia '285 Patent due to the deflection surface angles of about 40 to 50 degrees from the top wall. As there is no disclosure of the angles of the deflection surfaces in the Porchia '056 Patent and the Porchia '056 Patent has no material disclosures different or distinct from the

## PUBLIC VERSION

Porchia '285 Patent, the ALJ finds that Respondents have failed to show by clear and convincing evidence that the Porchia '056 Patent anticipates claim 1 of the '002 Patent.

### 3. The '443 Patent

#### a. Presto Generation I Slider Bag

Respondents argue that the Presto Generation I Slider Bag is prior art, that it was in public use or on sale before the critical date, and that it discloses each and every limitation of claim 1 of the '443 Patent. (RIB at 93-98.) Staff agrees. (SIB at 65-70.)

Presto argues that its Generation I Slider Bag is not prior art and that Respondents have not met their burden in proving that it is prior art or the actual features of the Generation I Slider Bag at the time of the public use or first sale. (CIB at 113-121.)

The ALJ finds that Respondents have failed to prove by clear and convincing evidence that the Presto Generation I Slider Bag was in public use or on sale before the critical date. *Eli Lilly v. Sicor Pharmaceuticals*, 705 F. Supp. 2d 971, 991 (S.D. Indiana) (March 31, 2010) (citing *Norian Corp. v. Stryker Corp.*, 363 F.3d 1321, 1330 (Fed.Cir.2004)) ("Defendants, as challengers of the patents' validity, bear the burden of proving by clear and convincing evidence that the references relied upon to demonstrate anticipation are, in fact, prior art.") Thus, Respondent and Staff must meet the heavy burden of showing by *clear and convincing evidence* that the Presto Generation I Slider Bag (RPX-0179) was in public use or on sale prior to the critical date. The ALJ finds that while the evidence presented may indicate that the Presto Generation I Slider Bag may have been in public use or on sale prior to the critical date, it falls far short of clear and convincing evidence. In support of its arguments, Respondents and Staff cite to the following evidence:

- A CAD drawing of a slider was made in September 26, 2000 (JX-0069C)



PUBLIC VERSION

- Mr. Buchman deposition testimony that the September 26, 2000 CAD drawing is of a slider that was used on Presto's Generation I Slider Bag (JX-0035C at 13:10-17)
- Mr. Petkovsek hearing testimony that the physical sample of the Generation I Slider Bag produced by Presto, with the slider from the CAD drawing, is the bag Presto was producing when he returned to Presto in March 2001 (Tr. at 35:2-6) and
- Mr. Petkovsek hearing testimony that Presto was selling the same bags as the physical sample in March 2001. (*Id.* 35:17-36:12.)

The Federal Circuit has held that “[c]orroboation is required of any witness whose testimony alone is asserted to invalidate a patent, regardless of his or her level of interest.” *Finnegan Corp. v. Int’l Trade Comm’n*, 180 F.3d 1354, 1369 (Fed. Cir. 1999). Here, Respondents and Staff assert that its reliance on the testimony of 2 witnesses as well as a CAD drawing are sufficient corroboration. The ALJ disagrees.

First, the ALJ finds that the testimony of Mssrs. Buchman and Petkovsek is far from convincing. Both witnesses are recollecting an event that occurred more than 15 years ago in 2001. Moreover, neither witness is a 30(b)(6) witness for the Presto Generation I Slider Bag. Mr. Buchman is the named inventor on the ’443 Patent and Mr. Petkovsek is the head of research and development and was prepared to testify on the Generation III slider bag. Even assuming that their memories were impeccable, their testimony can hardly meet the clear and convincing standard without corroborating evidence as required under the law.

Respondents and Staff assert that a CAD drawing is sufficient to corroborate Mssrs. Buchman and Petkovsek’s testimony. However, there is no evidence linking the internal CAD drawing to whether it *actually* discloses the features of the alleged public use/on sale Presto

## PUBLIC VERSION

Generation I Slider Bag, aside from the 15 year old recollection of two witnesses. Indeed, Mr. Petkovsek specifically stated that he “can’t specifically say I’ve seen this drawing though,” when he questioned about the CAD drawing. (Tr. 33:8-9.)

Even if the ALJ were to accept the CAD drawing as evidence of the features of the Presto Generation I Slider Bag, the evidence that the bag was actually in public use or on sale prior to the critical date is limited to the testimony of two people. Respondents have not submitted any other evidence, including sales invoices, catalogues, advertising material, etc. that would show that the actual Generation I Slider Bag (RPX-0179) was actually in public use or on sale prior to the critical date. In other investigations when a similar issue has been raised, the evidence of a first sale or public use is more extensive than simply the testimony of 2 people and a CAD drawing. Indeed, in Inv. No. 337-TA-744, the ALJ found that respondents Motorola had met its burden when it “offered the testimony of two witnesses from two different companies, physical samples, press releases, sales invoices, and user manuals.” The record is not clear as to when the first sale or first public use actually occurred or in what manner for the Generation I Slider bag. According to the testimony provided by Mssrs. Buchman and Petkovsek, Presto was already producing and selling the bags by March 2001. Assuming that to be true, there must have been some way for Presto’s sales and marketing teams to advertise their products – through catalogues, marketing material, sales/order forms, etc.. There must have been some record of the date of Presto’s first sale of its new line of bags. However, no such evidence has presented to the ALJ in this investigation. The evidence before the ALJ only consists of a single CAD drawing, which appears to be simply an internal document as there is no evidence that this CAD drawing

**PUBLIC VERSION**

was made publicly available,<sup>3</sup> and the testimony of an inventor, who does not appear to be involved in any sale or marketing of products for Presto, and the head of research and development, who also does not appear to be involved in the sale of any products for Presto.

Finally, even assuming that there was a Generation I Slider bag on sale prior to the critical date, there is no evidence as to what features were actually contained in the Generation I Slider bag that was sold prior to that critical date. It is not unquestionably clear that RPX-0179 is the Presto Generation I Slider bag that was actually sold or in public use. (*See supra.*)

The ALJ finds that the evidence presented by Respondents fails to meet the heavy burden of showing by clear and convincing evidence that the Presto Generation I Slider Bag was on sale or in public use prior to the critical date.

Respondents and Staff repeatedly note that Presto has failed to present any evidence to rebut the contention that the Generation I Slider bag is prior art. However, the burden remains on Respondents to meet the clear and convincing evidence standard to show that the Generation I Slider bag is prior art. The burden only shifts once a respondent “has presented a prima facie case of invalidity, the patentee has the burden of going forward with rebuttal evidence.” *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1360 (Fed. Cir. 2007).

Therefore, the ALJ finds that Respondents have failed to show by clear and convincing evidence that the Presto Generation I Slider bag is prior art.

**b. The '701 Patent**

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<sup>3</sup> Indeed, there is not even a clear link between the CAD drawing and the actual Generation I bag that was sold, aside from the testimony of Messrs. Buchman and Petkovsek. If this CAD drawing was indeed the correct depiction of the bag, there must be some additional sort of evidence supporting such, including manufacturing specifications, manuals, etc. that evidences. The record is not clear as to whether the CAD drawing is what was even used by Presto to make the Generation I Slide bag.

## PUBLIC VERSION

Respondents argue that U.S. Patent No. 6,293,701 (“the ’701 Patent”) discloses each and every limitation of claim 1 of the ’443 Patent. This patent was considered by the examiner during prosecution and, as such, Respondents carry a particularly heavy burden in establishing invalidity. (JX-0007.0045.) See *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1353 (Fed. Cir. 2001) (“When no prior art other than that which was considered by the PTO examiner is relied on by the attacker, he has the added burden of overcoming the deference that is due to a qualified government agency presumed to have properly done its job, which includes one or more examiners who are assumed to have some expertise in interpreting the references and to be familiar from their work with the level of skill in the art and whose duty it is to issue only valid patents.”) (citing *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359, (Fed. Cir. 1984)); *Hewlett-Packard Co. v. Bausch & Lomb, Inc.*, 909 F.2d 1464, 1467 (Fed. Cir. 1990) (particularly heavy burden in establishing invalidity on the same prior art that was examined in the PTO). The ALJ finds that Respondents have failed to meet their heavy burden of showing by clear and convincing evidence that the ’701 Patent discloses each and every limitation of claim 1 of the ’443 Patent. Specifically, the ALJ finds that the ’701 patent fails to clearly disclose the upper flanges in the spreader channel. (CX-0335C at Q&A 27-28; JX-00007.0054; Tr. 164:18-166:8.)

**c. The ’002 Patent**

Respondents argue that the asserted ’002 Patent discloses each and every limitation of claim 1 of the ’443 Patent. This patent was also considered by the examiner during prosecution and, as such, Respondents carry a particularly heavy burden in establishing invalidity. (JX-0007.054.) The ALJ finds that Respondents have failed to meet their heavy burden of showing by clear and convincing evidence that the ’002 Patent discloses each and every limitation of

## PUBLIC VERSION

claim 1 of the '443 Patent. Specifically, the ALJ finds that the '002 patent fails to clearly disclose the upper flanges in the spreader channel. (CX-0335C at Q&A 16-20; JX-00007.0054.)

**C. Obviousness**

Included within the presumption of validity is a presumption of non-obviousness. *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 714 (Fed. Cir. 1984). Obviousness is grounded in 35 U.S.C. § 103, which provide, *inter alia*, that:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

35 U.S.C. § 103. Under 35 U.S.C. § 103, a patent is valid unless “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 103. The ultimate question of obviousness is a question of law, but “it is well understood that there are factual issues underlying the ultimate obviousness decision.” *Richardson-Vicks Inc.*, 122 F.3d at 1479; *Wang Lab., Inc. v. Toshiba Corp.*, 993 F.2d 858, 863 (Fed. Cir. 1993).

Obviousness is a question of law based on underlying facts, as set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). “The Graham factors are (1) the scope and content of the prior art, (2) the difference between the prior art and the claimed invention, (3) the level of ordinary skill in the field of the invention, and (4) any relevant objective considerations.” *Soverain Software LLC v. NewEgg, Inc.*, 705 F.3d 1333, 1336 (Fed. Cir. 2013). “The Graham

## PUBLIC VERSION

Court explained that ‘the ultimate question of patent validity is one of law.’” *Id.* (citing *Graham*, 383 U.S. at 17).

“Generally, a party seeking to invalidate a patent as obvious must demonstrate ‘by clear and convincing evidence that a skilled artisan would have been motivated to combine the teaching of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.’” *OSRAM Sylvania, Inc. v. Am. Induction Techs., Inc.*, 701 F.3d 698, 706-707 (Fed. Cir. 2012) (quoting *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1361 (Fed. Cir. 2007)); *see also Amgen, Inc. v. F. Hoffman–LA Roche Ltd.*, 580 F.3d 1340, 1362 (Fed. Cir. 2009) (“An obviousness determination requires that a skilled artisan would have perceived a reasonable expectation of success in making the invention in light of the prior art.” (citations omitted)). “The Supreme Court has warned, however, that, while an analysis of any teaching, suggestion, or motivation to combine known elements is useful to an obviousness analysis, the overall obviousness inquiry must be expansive and flexible.” *OSRAM*, 701 F.3d at 707.

Obviousness may be based on any of the alleged prior art references or a combination of the same, and what a person of ordinary skill in the art would understand based on his knowledge and said references. If all of the elements of an invention are found, then:

a proper analysis under § 103 requires, inter alia, consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or device, or carry out the claimed process; and (2) whether the prior art would also have revealed that in so making or carrying out, those of ordinary skill would have a reasonable expectation of success. *Both the suggestion and the reasonable expectation of success must be founded in the prior art, not in the applicant's disclosure.*

*Velander v. Garner*, 348 F.3d 1359, 1363 (Fed. Cir. 2003) (emphasis added) (internal citations omitted).



## PUBLIC VERSION

The critical inquiry in determining the differences between the claimed invention and the prior art is whether there is a reason to combine the prior art references. *See C.R. Bard v. M3 Sys.*, 157 F.3d 1340, 1352 (Fed. Cir. 1998). For example:

*[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.*

*KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418-19 (2007) (emphasis added). The Federal Circuit case law previously required that, in order to prove obviousness, the patent challenger must demonstrate, by clear and convincing evidence, that there is a “teaching, suggestion, or motivation to combine. The Supreme Court has rejected this “rigid approach” employed by the Federal Circuit in *KSR Int'l Co. v. Teleflex Inc.*, 500 U.S. 398, 415 (2007). The Supreme Court stated:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Sakraida* and *Anderson's-Black Rock* are illustrative—a court must ask whether the improvement is more than the predictable use of prior art elements according to their established function.

Following these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement. Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands

## PUBLIC VERSION

known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicitly. See *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusions of obviousness”). As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

[...]

The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents. The diversity of inventive pursuits and of modern technology counsels against limiting the analysis in this way. In many fields it may be that there is little discussion of obvious techniques or combinations, and it often may be the case that market demand, rather than scientific literature, will drive design trends. Granting patent protection to advance that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility.

*KSR*, 550 U.S. at 417-419. The Federal Circuit has harmonized the *KSR* opinion with many prior circuit court opinions by holding that when a patent challenger contends that a patent is invalid for obviousness based on a combination of prior art references, “the burden falls on the patent challenger to show by clear and convincing evidence that a person of ordinary skill in the art would have had reason to attempt to make the composition or device, or carry out the claimed process, and would have had a reasonable expectation of success in doing so.” *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1360 (Fed. Cir. 2007)(citing *Medichem S.A. v. Rolabo S.L.*, 437 F.3d 1175, 1164 (Fed. Cir. 2006)); *Noelle v. Lederman*, 355 F.3d 1343, 1351-52 (Fed. Cir. 2004); *Brown & Williamson Tobacco Corp. v. Philip Morris, Inc.*, 229 F.3d 1120, 1121 (Fed. Cir. 2000) and *KSR*, 550 U.S. at 416 (“a combination of elements ‘must do more than



## PUBLIC VERSION

yield a predictable result'; combining elements that work together 'in an unexpected and fruitful manner' would not have been obvious"). Further, a suggestion to combine need not be express and may come from the prior art, as filtered through the knowledge of one skilled in the art. See *Certain Lens-Fitted Film Pkgs.*, Inv. No. 337-TA-406, Order No. 141 at 6 (May 24, 2005).

"Secondary considerations," also referred to as "objective evidence of non-obviousness," must be considered in evaluating the obviousness of a claimed invention, but the existence of such evidence does not control the obviousness determination. *Graham*, 383 U.S. at 17-18. A court must consider all of the evidence under the *Graham* factors before reaching a decision on obviousness. *Richardson-Vicks Inc.*, 122 F.3d at 1483-84. Objective evidence of non-obviousness may include evidence of the commercial success of the invention, long felt but unsolved needs, failure of others, copying by others, teaching away, and professional acclaim. See *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 894 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 857 (1984); *Avia Group Int'l, Inc. v. L.A. Gear California*, 853 F.2d 1557, 1564 (Fed. Cir. 1988); *In re Hedges*, 783 F.2d 1038, 1041 (Fed. Cir. 1986); *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565 (Fed. Cir. 1986), *cert. denied*, 479 U.S. 1034 (1987). The burden of showing secondary considerations is on the patentee and, in order to accord objective evidence substantial weight, a patentee must establish a nexus between the evidence and the merits of the claimed invention; a *prima facie* case is generally set forth "when the patentee shows both that there is commercial success, and that the thing (product or method) that is commercially successful is the invention disclosed and claimed in the patent." *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995); *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988), *cert. denied*, 488 U.S. 956 (1988); *Certain Crystalline Cefadroxil Monohydrate*, Inv. No. 337-TA-293, Comm'n Op. (March 15, 1990). Once a

## PUBLIC VERSION

patentee establishes nexus, the burden shifts back to the challenger to show that, *e.g.*, commercial success was caused by “extraneous factors other than the patented invention, such as advertising, superior workmanship, etc.” (*Id.*) at 1393.

Generally, a prior art reference that teaches away from the claimed invention does not create *prima facie* case of obviousness. *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994; *Certain Rubber Antidegradants*, Inv. No. 337-TA-533 (Remand), Final ID (Dec. 3, 2008) (stating, “KSR reaffirms that obviousness is negated when the prior art teaches away from the invention.”)). However, the nature of the teaching is highly relevant. *Id.* “A reference may be said to *teach away* when a person of ordinary skill, upon reading the reference, would be *discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.*” *Id.* (emphasis added). For example, “a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant.” *Id.*

The Federal Circuit has recently explained, moreover, that the obviousness inquiry requires examination of all four Graham factors. *E.g.*, *Mintz v. Dietz & Watson, Inc.*, 679 F.3d 1372, 1375 (Fed. Cir. 2012). Indeed, courts must consider all of the Graham factors prior to reaching a conclusion with respect to obviousness. *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1076–77 (Fed. Cir. 2012) (collecting cases). At all times, the burden is on the defendant to establish by clear and convincing evidence that the patent is obvious. *Id.* at 1077–78.

### 1. The '002 Patent

Respondents argue that to the extent that the Porchia '056 Patent is found not to disclose the about 40 to 50 degree deflection surface angle, it would have been an obvious design choice requiring minimal experimentation; or in combination with the U.S. Patent No. 3,426,396

**PUBLIC VERSION**

("the '396 Patent"); or in combination with U.S. Patent No. 6,014,795 ("the '795 Patent"). (RIB at 75-78.)

The ALJ finds that Respondents have failed to show by clear and convincing evidence that claim 1 of the '002 Patent is obvious. Respondents' conclusorily state that it would have been an obvious design choice to use a 40 to 50 degree range (RIB at 75-76), but they fail to point to any evidence to support their arguments. The patent cited by Respondents, namely the '396 Patent, only discloses that angled surfaces facilitate the engagement of the slider. Respondents point to nothing in the '396 Patent that specifies any sort of range of degrees for the angles. The ALJ finds that this fails to meet the clear and convincing standard.

Similarly, Respondents' argument that claim 1 is obvious in view of the '795 Patent fails to meet the clear and convincing standard as well. (RIB at 76-78.) While the angle in the '795 Patent, as measured by Presto's own expert, is about 20 degrees, the claim limitation at issues does not include a range of about 30 to 60 degrees (*see supra* Section IV.D.2) and, therefore, the angle disclosed in the '795 Patent is outside the scope of the claim. Respondents argue that it would have been obvious for one to set the angle at 45 degrees. However, as with the '396 Patent, Respondents fail to provide any support for this conclusion aside from simply stating that it would have been obvious for one of ordinary skill in the art to do so. The ALJ finds that this fails to meet the clear and convincing burden.

Therefore, the ALJ finds that Respondents have failed to show by clear and convincing evidence that claim 1 of the '002 Patent is obvious in view of any of the cited prior art references or any combination thereof.

**2. The '443 Patent**

Respondents argue that claim 1 of the '443 Patent would be obvious in light of the Presto Generation I Slider Bag, the '701 Patent, and the '002 Patent or any combination thereof of those

**PUBLIC VERSION**

three prior art references. (RIB at 106-107.) Respondents argue that to the extent the ALJ finds that these prior art references fail to disclose the limitation where the upper flanges of the closure profiles in the spreader channel, it would have been obvious for one of ordinary skill in the art “to disclose the upper flanges of the closure profiles are positioned at or very near to the spreader channel, if not in the channel directly.” (RIB at 107.)

The ALJ finds that Respondents have failed to meet the clear and convincing burden of showing that claim 1 of the ‘443 Patent is obvious in view of any of the listed prior art references individually or in combination. The ALJ finds that Respondents’ conclusory statement that it would have been obvious for one of ordinary skill in the art to “produce the claimed invention” fails to meet the clear and convincing burden. (RIB at 107-108.)

Therefore, the ALJ finds that Respondents have failed to show by clear and convincing evidence that claim 1 of the ‘443 Patent is obvious in view of the Presto Generation I Slider Bag, the ‘701 Patent and the ‘002 Patent, individually or in combination.

## **VII. DOMESTIC INDUSTRY**

### **A. Applicable Law**

In patent based proceedings under section 337, a complainant must establish that an industry “relating to the articles protected by the patent . . . exists or is in the process of being established” in the United States. 19 U.S.C. § 1337(a)(2). Under Commission precedent, the domestic industry requirement of Section 337 consists of a “technical prong” and an “economic prong.” *Certain Data Storage Systems and Components Thereof*, Inv. No. 337-TA-471, Initial Determination Granting EMC’s Motion No. 471-8 Relating to the Domestic Industry Requirement’s Economic Prong (unreviewed) at 3 (Public Version, October 25, 2002) The “economic prong” of the domestic industry requirement is satisfied when the economic activities

## PUBLIC VERSION

set forth in subsections (A), (B), and/or (C) of subsection 337(a)(3) have taken place or are taking place with respect to the protected articles. *Certain Printing and Imaging Devices and Components Thereof*, Inv. No. 337-TA-690, Commission Op. at 25 (February 17, 2011) (“*Printing and Imaging Devices*”). With respect to the “economic prong,” 19 U.S.C. § 1337(a)(2) and (3) provide, in full:

(2) Subparagraphs (B), (C), (D), and (E) of paragraph (1) apply only if an industry in the United States, relating to the articles protected by the patent, copyright, trademark, mask work, or design concerned, exists or is in the process of being established.

(3) For purposes of paragraph (2), an industry in the United States shall be considered to exist if there is in the United States, with respect to the articles protected by the patent, copyright, trademark, mask work, or design concerned—

(A) significant investment in plant and equipment;

(B) significant employment of labor or capital; or

(C) substantial investment in its exploitation, including engineering, research and development, or licensing.

*Id.*

Given that these criteria are in the disjunctive, satisfaction of any one of them will be sufficient to meet the domestic industry requirement. *Certain Integrated Circuit Chipsets and Products Containing Same*, Inv. No. 337-TA-428, Order No 10 at 3, Initial Determination (Unreviewed) (May 4, 2000), citing *Certain Variable Speed Wind Turbines and Components Thereof*, Inv. No. 337-TA-376, Commission Op. at 15, USITC Pub. 3003 (Nov. 1996). The Commission has embraced a flexible, market-oriented approach to domestic industry, favoring case-by-case determination “in light of the realities of the marketplace” that encompass “not only the manufacturing operations” but may also include “distribution, research and development and sales.” *Certain Dynamic Random Access Memories*, Inv. No. 337-TA-242, USITC Pub. 2034, Commission Op. at 62 (Nov. 1987) (“*DRAMs*”).

## PUBLIC VERSION

To meet the technical prong, the complainant must establish that it practices at least one claim of the asserted patent. *Certain Point of Sale Terminals and Components Thereof*, Inv. No. 337-TA-524, Order No. 40 (April 11, 2005). The test for claim coverage for the purposes of the technical prong of the domestic industry requirement is the same as that for infringement. *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1375 (Fed. Cir. 2003); *see also Certain Doxorubicin and Preparations Containing Same*, Inv. No. 337-TA-300, Initial Determination at 109 (U.S.I.T.C., May 21, 1990) ("*Certain Doxorubicin*"), *aff'd*, Views of the Commission at 22 (October 31, 1990). "First, the claims of the patent are construed. Second, the complainant's article or process is examined to determine whether it falls within the scope of the claims." (*Id.*) As with infringement, the first step of claim construction is a question of law, whereas the second step of comparing the article to the claims is a factual determination. *Markman*, 52 F.3d at 976. The technical prong of the domestic industry can be satisfied either literally or under the doctrine of equivalents. *Certain Excimer Laser Systems for Vision Correction Surgery and Components Thereof and Methods for Performing Such Surgery*, Inv. No. 337-TA-419, Order No. 43 (July 30, 1999). The patentee must establish by a preponderance of the evidence that the domestic product practices one or more claims of the patent. *See Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1247 (Fed. Cir. 2000).

The Commission recently determined that the technical prong is not limited to subsections (A) and (B), but that any complainant seeking to establish a domestic industry under subsection (C) must also meet the technical prong. *Certain Computers and Computer Peripheral Devices, and Components Thereof, and Products Containing Same*, Inv. No. 337-TA-841, Comm'n Op. (December 20, 2013). Specifically, the Commission stated

Based on the *InterDigital* and *Microsoft* decisions, a complainant alleging the existence of a domestic industry under 19 U.S.C. §1337(a)(3)(C) must show the



## PUBLIC VERSION

existence of articles. As discussed extensively earlier, the substantial investment, once protected articles have been shown, is in the exploitation of the intellectual-property rights, “including engineering, research and development, or licensing.

*Id.* at 40. The Commission further stated, however, that “[w]e reject the [] production-driven requirement, which is in conflict with the plain language of the statute and its legislative history.”

*Id.*

Congress enacted 19 U.S.C. § 1337(a)(3) in 1988 as part of the Omnibus Trade and Competitiveness Act. *See Certain Plastic Encapsulated Integrated Circuits*, Inv. No. 337-TA-315, USITC Pub. No. 2574 (Nov. 1992), Initial Determination at 89 (October 16, 1991) (unreviewed in relevant part). The first two sub-paragraphs codified existing Commission practice. *See id.* at 89; *see also Certain Male Prophylactic Devices*, Inv. No. 337-TA-546, Commission Op. at 39 (June 29, 2007). Under Commission precedent, these requirements could be met by manufacturing the articles in the United States, *see, e.g., DRAMs*, Commission Op. at 61, or other related activities, *see Schaper Mfg. Co. v. U.S. Int’l Trade Comm’n*, 717 F.2d 1368, 1373 (Fed. Cir. 1983) (“[I]n proper cases, ‘industry’ may encompass more than the manufacturing of the patented item. . .”).

In addition to subsections (A) and (B), there is also subsection (C). “In amending section 337 in 1988 to include subsection (C), Congress intended to liberalize the domestic industry requirement so that it could be satisfied by all ‘holders of U.S. intellectual property rights who are engaged in activities genuinely designed to exploit their intellectual property’ in the United States.” *Certain Multimedia Display and Navigation Devices and Systems and Components Thereof, and Products Containing Same*, Inv. No. 337-TA-694, Commission Op. at 7 (August 8, 2011) (quoting *Certain Digital Processors and Digital Processing Systems, Components Thereof*,

## PUBLIC VERSION

*and Products Containing Same*, Inv. No. 337-TA-559, Final Initial Determination at 93 (unreviewed in relevant part) (May 11, 2007).

In *Printing and Imaging Devices*, the Commission held that “under the statute, whether the complainant’s investment and/or employment activities are ‘significant’ is not measured in the abstract or absolute sense, but rather is assessed with respect to the nature of the activities and how they are ‘significant’ to the articles protected by the intellectual property right.”

*Printing and Imaging Devices*, Commission Op. at 26. The Commission further stated that:

the magnitude of the investment cannot be assessed without consideration of the nature and importance of the complainant’s activities to the patented products in the context of the marketplace or industry in question . . . . whether an investment is ‘substantial’ or ‘significant’ is context dependent. (*Id.* at 31.)

Indeed, the Commission has emphasized that “there is no minimum monetary expenditure that a complainant must demonstrate to qualify as a domestic industry under the ‘substantial investment’ requirement” of section 337(a)(3)(C). *Certain Stringed Musical Instruments and Components Thereof*, Inv. No. 337-TA-586, Commission Op. at 25 (May 16, 2008). Moreover, the Commission has stated that the complainant need not “define or quantify the industry itself in absolute mathematical terms.” *Id.* at 26.

Section 337(a)(3)(C) provides for domestic industry based on “substantial investment” in the enumerated activities, including licensing of a patent. *See Certain Digital Processors and Digital Processing Systems, Components Thereof, and Products Containing Same*, Inv. No. 337-TA-559, Initial Determination at 88 (May 11, 2007) (“*Certain Digital Processors*”). Mere ownership of the patent is insufficient to satisfy the domestic industry requirement. *Certain Digital Processors* at 93. (citing the Senate and House Reports on the Omnibus Trade and Competitiveness Act of 1988, S.Rep. No. 71). However, entities that are actively engaged in



## PUBLIC VERSION

licensing their patents in the United States can meet the domestic industry requirement. *Certain Digital Processors* at 93. The complainant must receive revenue, e.g. royalty payments, from its licensing activities. *Certain Digital Processors*, at 93-95 (“Commission decisions also reflect the fact that a complainant’s receipt of royalties is an important factor in determining whether the domestic industry requirement is satisfied . . . [t]here is no Commission precedent for the establishment of a domestic industry based on licensing in which a complainant did not receive any revenue from alleged licensing activities. In fact, in previous investigations in which a complainant successfully relied solely on licensing activities to satisfy section 337(a)(3), the complainant had licenses yielding royalty payments.”) (citations omitted). See also *Certain Video Graphics Display Controllers and Products Containing Same*, Inv. No. 337-TA-412, Initial Determination at 13 (May 14, 1999) (“*Certain Video Graphics Display Controllers*”); *Certain Integrated Circuit Telecommunication Chips and Products Containing Same Including Dialing Apparatus*, Inv. No. 337-TA-337, U.S.I.T.C. Pub. No. 2670, Initial Determination at 98 (March 3, 1993) (“*Certain Integrated Circuit Telecommunication Chips*”); *Certain Zero-Mercury-Added Alkaline Batteries, Parts Thereof and Products Containing Same*, Inv. No. 337-TA-493, Initial Determination at 142 (June 2, 2004) (“*Certain Zero-Mercury-Added Alkaline Batteries*”); *Certain Semiconductor Chips*, Order No. 13 at 6 (January 24, 2001); *Certain Digital Satellite System DSS Receivers and Components Thereof*, Inv. No. 337-TA-392, Initial and Recommended Determinations at 11 (December 4, 1997) (“*Certain Digital Satellite System DSS Receivers*”).

In *Certain Multimedia Display & Navigation Devices & Systems, Components Thereof, & Products Containing Same*, Inv. No. 337-TA-694, Comm’n Op. (Aug. 8, 2011) (“*Navigation Devices*”), the Commission stated that a complainant seeking to rely on licensing activities must

## PUBLIC VERSION

satisfy three requirements: (1) the investment must be “an investment in the exploitation of the asserted patent;” (2) the investment must relate to licensing; and (3) the investment “must be domestic, *i.e.*, it must occur in the United States.” *Id.* at 7-8. The Commission stated that “[o]nly after determining the extent to which the complainant’s investments fall within these statutory parameters can we evaluate whether complainant’s qualifying investments are ‘substantial,’ as required by the statute.” *Id.* at 8.

Under the first of the three requirements, the complainant must show a nexus between the licensing activity and the asserted patent. *Id.* at 9. When the asserted patent is part of a patent portfolio, and the licensing activities relate to the portfolio as a whole, the Commission requires that the facts be examined to determine the strength of the nexus between the asserted patent and the licensing activities. *Id.* The Commission provided a non-exhaustive list of factors to consider, such as (1) whether the licensee’s efforts relate to “an article protected by” the asserted patent under Section 337 (a)(2)-(3); (2) the number of patents in the portfolio; (3) the relative value contributed by the asserted patent to the portfolio; (4) the prominence of the asserted patent in licensing discussions, negotiations, and any resulting licensing agreement; and (5) the scope of technology covered by the portfolio compared to the scope of the asserted patent. *Id.* at 9-10. The Commission explained that the asserted patent may be shown to be particularly important or valuable within the portfolio where there is evidence that: (1) it was discussed during licensing negotiations; (2) it has been successfully litigated before by the complainant; (3) it is related to a technology industry standard; (4) it is a base patent or pioneering patent; (5) it is infringed or practiced in the United States; or (6) the market recognizes the patent’s value in some other way. *Id.* at 10-11.

## PUBLIC VERSION

Once a complainant's investment in licensing the asserted patent in the United States has been assessed in the manner described above, the next inquiry is whether the investment is "substantial." 19 U.S.C. § 1337(a)(3)(C). The Commission takes "a flexible approach whereby a complainant whose showing on one or more of the three section 337(a)(3)(C) requirements is relatively weak may nevertheless establish that its investment is 'substantial' by demonstrating that its activities and/or expenses are of a large magnitude." *Multimedia Display and Navigation Devices*, Comm'n Op. at 15. The Commission has indicated that whether an investment is "substantial" may depend on:

- (1) the nature of the industry and the resources of the complainant;
- (2) the existence of other types of "exploitation" activities;
- (3) the existence of license-related "ancillary" activities;
- (4) whether complainant's licensing activities are continuing; and
- (5) whether complainant's licensing activities are the type of activities that are referenced favorably in the legislative history of section 337(a)(3)(C).

*Id.* at 15-16. The complainant's return on its licensing investment (or lack thereof) may also be circumstantial evidence of substantiality. *Id.* at 16. In addition, litigation expenses may be evidence of the complainant's investment, but "should not automatically be considered a 'substantial investment in . . . licensing,' even if the lawsuit happens to culminate in a license." *John Mezzalingua Assocs., Inc. v. Int'l Trade Comm'n*, 660 F.3d 1322 (Fed. Cir. 2011).

## **B. Technical Prong**

### **1. The '421 Patent**

Presto argues that its domestic industry products, sold under the private brand label brand name "Home Sense," practice each element of claim 39. (CIB at 38-43.) Presto argues that under its claim construction, it literally meets each limitation. (*Id.*) Under Respondents'

**PUBLIC VERSION**

proposed construction, Presto argues that it meets each claim limitation under the doctrine of equivalents. (*Id.*)

Respondents only dispute that Presto meets the “positioning a zipper” limitation and the “feeding a zipper sheet” limitation. (RIB at 37-38.) They do not dispute that the domestic industry products meet the other limitations of claim 39. (*See generally* RIB at 37-38.) Staff agrees. (SIB at 385-31.)

The ALJ finds that Presto’s domestic industry product does not meet the “feeding the zipper sheet” limitation. The evidence shows that the manufacturing process for Presto’s domestic industry products is the same as that used by Respondents, namely using in-line zipper ribbons rather than zipper sheets that are releasably adhered. (CX-0030C Q&A 68; RX-0185C at Q&A 98-101.) For the same reasons set forth above in Section IV.B.2, the ALJ finds that the in-line continuous ribbon does not meet the “feeding the zipper sheet” limitation under the doctrine of equivalents. Consequently, the ALJ finds that Presto’s domestic industry product does not meet each and every limitation of claim 39 and has not satisfied the technical prong of the domestic industry requirement.

## **2. The '002 Patent**

Presto argues that its domestic industry products practice each element of claim 1. (CIB at 75-84.) Presto argues that under its claim construction, it literally meets each limitation. (*Id.*) Under Respondents’ proposed construction, Presto argues that it meets each claim limitation under the doctrine of equivalents. (*Id.*)

Respondents and Staff argue that Presto’s domestic industry products do not meet the “deflection surface positioned on an interior surface of said [first/second] hook construction at said first end and position at an angle of about 40 to 50 degrees from said top wall” and “a [first/second] engagement surface to engage said [first/second] closure profile, the [first/second]

## PUBLIC VERSION

engagement surface extending the hook length” limitations literally or under the doctrine of equivalents. (RIB at 64-70; SIB at 47-51.)

The evidence shows that, for Presto’s domestic industry products, one of the deflection surface angles is 41 degrees, while the other is at 29 degrees. (CX-0030C at Q&A 152-155.) As set forth *supra* in Section IV.D.2, the limitation is limited to angles between 40 and 50 degrees and does not include angles between about 30 and 60 degrees. Therefore, the domestic industry products do not literally satisfy the “deflection surface positioned on an interior surface of said [first/second] hook construction at said first end and position at an angle of about 40 to 50 degrees from said top wall” limitation. Similarly, the domestic industry products do not literally satisfy the “a [first/second] engagement surface to engage said [first/second] closure profile, the [first/second] engagement surface extending the hook length” limitation. The evidence shows that the domestic industry products are similar to the Accused Products, namely that the hook length only extends partially the length of the hook construction. (CX-0030C at Q&A 156-7; CDX-118.) The claim requires that the hook length extend the entire length of the hook construction. (*See supra* at Section IV.D.1.) Therefore, the domestic industry products do not literally meet this claim limitation.

Presto further argues that the “deflection surface positioned on an interior surface of said [first/second] hook construction at said first end and position at an angle of about 40 to 50 degrees from said top wall” limitation is met under the doctrine of equivalents. (CIB at 78-81; 83.) Presto argues that the 29 degree angle for the deflection surface is “insubstantially” different from a 40 degree angle because it performs substantially the (to deflect the slider away from the zipper and guide the zipper) in substantially the same way (using a tapered surface) to

**PUBLIC VERSION**

achieve substantially the same result (facilitating the mounting of the slider device). The ALJ finds Presto's arguments unpersuasive.

First, Presto's function/way/result test is so broad that it could encompass both the Accused Products that had a deflection angle of about 45 degrees as measured from the wall opposite the top wall as well as the domestic industry product that has at least one deflection angle of 29 degrees as measure from the top wall. (*Compare* CIB at 68 to 79.) As both Respondents and Staff have noted, the doctrine of equivalents cannot be expanded so broadly to encompass two such different products.

Furthermore, as set forth *supra* Sections IV.D.2 and V.C.2, Presto is estopped from making its equivalents arguments due to statements made by the applicant during prosecution history. Presto attempts to argue that the 29 degree angle is equivalent to the about 40 to 50 degree angle. As set forth above in Section IV.D.2, the ALJ found that Presto was not entitled to the about 30 to 60 degree range disclosed in the specification. Therefore, the domestic industry product deflection surface angle of 29 degrees is not equivalent to the about 40 to 50 degree limitation in the claim.

Therefore, the ALJ finds that the domestic industry products do not meet these two disputed limitations.

### **3. The '443 Patent**

Presto argues that its Home Sense bags practice claim 1 of the '443 Patent. (CIB at 109-113.) Respondents and Staff do not dispute that the domestic industry products practice claim 1 of the '443 Patent. (*See generally* RIB at 78-109.)

The ALJ finds that Presto's Home Sense bags practice claim 1 of the '443 Patent. As set forth below, the evidence shows that the domestic industry products practices each and every limitation of claim 1.



## PUBLIC VERSION

**“A resealable bag comprising:”**

This element is satisfied by Presto’s Home Sense bags. (CX-0030C at Q. 194). As shown on CPX-03, the Home Sense bags is a resealable package. (*See e.g.* CX-0030C at Q. 194; CPX-03; CDX-151; JX-0070C; CX-0075C-077C) Accordingly, Presto’s D Home Sense bags practice this element. Moreover, respondents have not disputed that Presto’s Home Sense bags practice this claim element. (*See e.g.* CX-0030C at Q. 195).

**“(a) first and second panel sections joined together to define an enclosed region, first and second opposite side edges, a bottom and a mouth that provides access to the enclosed region;”**

This element is satisfied by Presto’s Home Sense bags. (CX-0030C at Q. 196). As shown on CPX-03, the Home Sense bags have adjacent wall panels with a mouth in between. (*See e.g.* CX-0030C at Q. 196; CPX-03; CDX-153; JX-0070C; CX-0075C-077C) Accordingly, Presto’s Home Sense bags practice this element. Moreover, respondents have not disputed that Presto’s Home Sense bags practice this claim element. (*See e.g.* CX-0030C at Q. 197).

**“(b) a closure mechanism comprising first and second closure profiles;”**

This element is satisfied by Presto’s Home Sense bags. (CX-0030C at Q. 198). As shown on CPX-03, the Home Sense bags include a zipper with first and second closure profiles. (*See e.g.* CX-0030C at Q. 198; CPX-03; CDX-155; JX-0070C; CX-0075C-077C). Accordingly, Presto’s D Home Sense bags practice this element. Moreover, respondents have not disputed that Presto’s Home Sense bags practice this claim element. (*See e.g.* CX-0030C at Q. 199).

**“(i) the first closure profile comprising a first base strip and a first upper flange, the first base strip having a first interlocking member extending therefrom;”**

This element is satisfied by Presto’s Home Sense bags. (CX-0030C at Q. 200). As shown on CPX-03, the Home Sense bags include a first upper flange, interlocking member, and base

## PUBLIC VERSION

strip. (See e.g. CPX-03; CDX-157; JX-0070C; CX-0075C-077C) Accordingly, Presto's Home Sense bags practice this element. Moreover, respondents have not disputed that Presto's Home Sense bags practice this claim element. (See e.g. CX-0030C at Q. 201).

**“(iii)the second closure profile comprising a second base strip and a second upper flange, the second base strip having a second interlocking member extending therefrom;”**

This element is satisfied by Presto's Home Sense bags. (CX-0030C at Q. 202). The Home Sense bags include a second adjacent closure profile with a second upper flange, interlocking member, and base strip. (See e.g. CX-0030C at Q. 202; CPX-03; CDX-159; JX-0070C; CX-0077C). Accordingly, Presto's Home Sense bags practice this element. Moreover, respondents have not disputed that Presto's Home Sense bags practice this claim element. (See e.g. CX-0030C at Q. 203).

**“(iii) the first and second interlocking members constructed and arranged to selectively interlock;”**

This element is satisfied by Presto's Home Sense bags because the Home Sense bags include a first and second interlocking members constructed and arranged to selectively interlock (See e.g. CX-0030C at Q. 204; CPX-03; CDX-161; JX-0070C; CX-0077C). Because the first and second interlocking members hook in opposite directions you can see that they interlock when pushed together. (*Id.*) Accordingly, Presto's Home Sense bags practice this element. Moreover, respondents have not disputed that Presto's Home Sense bags practice this claim element. (See e.g. CX-0030C at Q. 205).

**“(c) a slider device for selectively opening and closing the closure mechanism, the slider device comprising:”**

This element is satisfied by Presto's Home Sense bags because the Home Sense bags include a slider. (See e.g. CX-0030C at Q. 206; CPX-03; CDX-163; JX-0070C; CX-0077C). Accordingly, Presto's Home Sense bags practice this element. Moreover, respondents have not



## PUBLIC VERSION

disputed that Presto's Home Sense bags practice this claim element. (*See e.g.* CX-0030C at Q. 206).

**“(i) a top wall and a pair of side walls, the top wall and side walls defining a cavity sized to receive the first and second upper flanges;”**

This element is satisfied by Presto's Home Sense bags. (*See e.g.* CX-0030C at Q. 207; CPX-03; CDX-165; JX-0070C; CX-0077C). CDX-165 shows an annotated version of the slider which shows the slider from the side view and there are a top wall, side walls, and a cavity for receiving the zipper. Accordingly, Presto's Home Sense bags practice this element. Moreover, respondents have not disputed that Presto's Home Sense bags practice this claim element. (*See e.g.* CX-0030C at Q. 208).

**“(ii) a spreader for separating the first and second closure profiles, the spreader depending from the top wall, the spreader having a channel therethrough; and”**

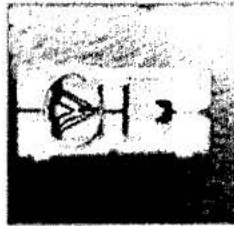
This element is satisfied by Presto's Home Sense bags. (*See e.g.* CX-0030C at Q. 209; CPX-03; CDX-165; JX-0070C; CX-0077C). CDX-167 shows the underside of a slider as compared to the primary embodiment of Figure three in the patent. (*Id.*)

## PUBLIC VERSION

## '443 Patent: Domestic Industry

- › i. (ii) a spreader for separating the first and second closure profiles, the spreader depending from the top wall, the spreader having a channel therethrough; and

• "The '443 Patent discloses a spreader 20 that functions to push apart the closure profiles 120, 121 as the slider is moved in a direction opposite the first direction . . . ." '443 Patent, col. 5, ll. 58-60, and also discloses "two ribs 26, 28 that extend towards each other from the two side walls 24, 22, respectively. The two ribs function to force the two closure profiles 120, 121 together as the slider 20 is moved in a first direction . . . ." *Id.*, col. 5, ll. 47-50; see also Figs. 3a & 3d.



CPX-3

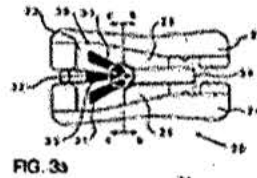


FIG. 3a



CDX-167

(CDX-167)

As shown on CDX-167, the both have three protrusions off the bottom of the top wall which are orientated the exact same way. Dr. Reinholtz has explained that the middle structure does not need to be used for spreading the bag and the spreader is a multi-protrusion element or combination of elements that facilitates opening and closing the bag and has a center channel through which the bag flanges flow. (CX-0030C at Q. 209-210). The bag flanges flow through the channels when the bags are in the closed position. (CX-0030C at Q. 209-210). Accordingly, Presto's Home Sense bags practice this element.

Moreover, respondents do not appear to have disputed that Presto's Home Sense bags practice this claim element. (See e.g. CX-0030C at Q. 210).

## PUBLIC VERSION

**“(d) wherein the first and second upper flanges are positioned in the channel through the spreader.”**

This element is satisfied by Presto’s Home Sense bags because each Home Sense bags includes a spreader wherein the first and second upper flanges are positioned in the channel through the spreader. (*See e.g.* CX-0030C at Q. 211; CPX-03; CDX-169; JX-0070C; CX-0077C). Accordingly, Presto’s Home Sense bags practice this element. Moreover, respondents have not disputed that Presto’s Home Sense bags practice this claim element. (*See e.g.* CX-0030C at Q. 212).

Therefore, the evidence shows that the Presto’s domestic industry product practices claim 1 of the ’443 Patent.

**C. Economic Prong**

On February 11, 2016, the ALJ granted Presto’s motion for summary determination that it has satisfied the economic prong of the domestic industry requirement. (Order No. 8.) On March 14, 2016, the Commission determined not to review the order. (*See Notice of a Commission Determination Not to Review an Initial Determination Granting in Part Complainant’s Motion for Summary Determination That It Has Satisfied the Economic Prong of the Domestic Industry Requirement.*)

PUBLIC VERSION

VIII. CONCLUSIONS OF LAW

1. The Commission has personal jurisdiction over the parties and subject-matter and *in rem* jurisdiction over the accused products.
2. The importation or sale requirement of section 337 is satisfied.
3. The accused products do not infringe the asserted claims of the '421, the '002 and the '443 Patents either literally or under the doctrine of equivalents.
4. The '421, the '002 and the '443 Patents are not invalid under 35 U.S.C. § 102 for anticipation.
5. The '421, the '002 and the '443 Patents are not invalid under 35 U.S.C. § 103 for obviousness.
6. The domestic industry requirement for the '443 Patent has been satisfied.
7. The domestic industry requirement for the '421 and the '002 Patents has not been satisfied.
8. It has been established that no violation exists of section 337 for the asserted claims of the '421, the '002 and the '443 Patents.

PUBLIC VERSION

**IX. INITIAL DETERMINATION AND ORDER**

Based on the foregoing, it is the INITIAL DETERMINATION of the ALJ that no violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, has occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain resealable packages with slider devices by reason of infringement of certain claims of U.S. Patent Nos. 6,427,421; 6,524,002; and 7,311,443.

Further, this Initial Determination, together with the record of the hearing in this investigation consisting of:

- (1) the transcript of the hearing, with appropriate corrections as may hereafter be ordered, and
- (2) the exhibits received into evidence in this investigation, as listed in the attached exhibit lists in Appendix A,

are CERTIFIED to the Commission. In accordance with 19 C.F.R. § 210.39(c), all material found to be confidential by the undersigned under 19 C.F.R. § 210.5 is to be given *in camera* treatment.

The Secretary shall serve a public version of this ID upon all parties of record and the confidential version upon counsel who are signatories to the Protective Order (Order No. 1.) issued in this investigation.

PUBLIC VERSION

**X. RECOMMENDED DETERMINATION ON REMEDY AND BOND**

**A. Remedy and Bonding**

The Commission's Rules provide that subsequent to an initial determination on the question of violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, the administrative law judge shall issue a recommended determination containing findings of fact and recommendations concerning: (1) the appropriate remedy in the event that the Commission finds a violation of section 337, and (2) the amount of bond to be posted by respondents during Presidential review of Commission action under section 337(j). *See* 19 C.F.R. § 210.42(a)(1)(ii).

**1. Limited Exclusion Order**

Under Section 337(d), the Commission may issue either a limited or a general exclusion order. A limited exclusion order ("LEO") directed to respondents' infringing products is among the remedies that the Commission may impose, as is a general exclusion order that would apply to all infringing products, regardless of their manufacturer. *See* 19 U.S.C. § 1337(d).

Presto argues that a LEO should be issued if a violation is found. (CIB at 126.)

Respondents do not dispute that a LEO would be appropriate if a violation of Section 337 is found. (*See generally* RIB and RRB.)

The Staff contends that, if a violation of Section 337 is found in this investigation, then the evidence supports a limited exclusion order directed at Respondents. (SIB at 77.)

Should the Commission find a violation, the ALJ recommends that the Commission issue a LEO against Respondents' accused products.

**2. General Exclusion Order**

The Commission has "broad discretion in selecting the form, scope and extent of the remedy." *Viscofan, S.A. v. United States Int'l Trade Comm'n*, 787 F.2d 544, 548 (Fed. Cir.

## PUBLIC VERSION

1986). When a violation of Section 337 is found, the Commission may issue either a limited exclusion order, directed against products manufactured by or on behalf of named parties found in violation, or a general exclusion order, directed against all infringing products. *See* 19 U.S.C. § 1337(d).

A general exclusion order is only appropriate if one of the following circumstances is shown to exist:

- (A) a general exclusion from entry of articles is necessary to prevent circumvention of an exclusion order limited to products of named persons; or
- (B) there is a pattern of violation of this section and it is difficult to identify the source of infringing products.

19 U.S.C. § 1337(d)(2); *see Kyocera Wireless Corp. v. International Trade Comm’n*, 545 F.3d 1340 (Fed. Cir. 2008). The Commission’s analysis of these criteria focuses “principally on the statutory language itself.” *Certain Cases for Portable Electronic Devices*, Inv. Nos. 337-TA-861/867, Comm’n Op., at 8 (July 10, 2014) (EDIS Doc. No. 537831) (“While the factors set forth in *Certain Airless Paint Spray Pumps and Components Thereof* ... guided the GEO analysis for some time, the Commission ‘now focus[es] principally on the statutory language itself.’”).

The Complainant bears the burden of showing that a general exclusion order is appropriate. *See Certain Semiconductor Chips with Minimized Chip Package Size and Products Containing Same*, Inv. No. 337-TA-605, Comm’n Op. at 66-67 (May 20, 2009). “The Federal Circuit has emphasized that a party must meet the ‘heightened requirements of section 337(d)(2)(A) or (d)(2)(B)’ before the Commission has authority to issue a GEO against products of non-respondents.” *Certain Cases for Portable Electronic Devices*, at 8 (citing *Kyocera*).

## PUBLIC VERSION

Presto argues that, should a violation be found, it is entitled to a general exclusion order. (CIB at 126-132.) Specifically, Presto argues that there is a widespread pattern of violation given the low barriers to entry and the difficulty in identifying the manufacturers, most of whom are located in China, of the accused products. (CIB at 129.)

Respondents and Staff argue that a general exclusion order is not warranted. (RIB at 109-110; SIB at 75-76.)

The ALJ finds that, should a violation be found, the Commission should not issue a general exclusion order. While Presto argues that there is a “widespread pattern of violation” as evidenced by the activities of Respondents, Presto fails to cite any evidence in support of its arguments. For example, Presto alleges that there are low barriers to entry because of the relatively low cost of manufacturing and the low cost of obtaining equipment overseas. However, Presto fails to cite to any evidence regarding the cost of manufacturing or of obtaining equipment overseas. Similarly, Presto also argues that it is difficult to identify sources of infringing goods made in China, but has failed to cite any evidence to that effect nor has Presto even attempted to identify the manufacturers. (Tr., 20:8-15.) Indeed, there is no evidence that the “difficult to identify” Chinese manufacturers sell to anyone but the Respondents such that circumvention of an LEO would be a concern.

Therefore, should the Commission find a violation, the ALJ finds that evidence fails to support issuing a general exclusion order.



PUBLIC VERSION

### 3. Cease and Desist Order

Presto contends that a cease and desist order (“CDO”) is appropriate as Respondents have stipulated that it maintains a commercially significant inventory of the accused products in the United States. (*See* March 11, 2016 Stipulation, EDIS DOC ID 576210.)

Respondents argue that the amount of inventory is not “commercially significant.” (RIB at 110.)

If a violation is found, the Staff supports Presto’s request for a CDO against Respondents. (SIB at 78.)

Should the Commission find a violation, the ALJ recommends the issuance of a CDO prohibiting Respondents from selling its accused products because Respondents maintain a commercially significant inventory of the accused products in the United States. (EDIS Doc. ID No. 576210; *see Certain Agricultural Tractors*, Inv. No. 337-TA-380, Comm’n Op. at 31, USITC Pub. No. 3026 (Mar. 1997) (“[C]ease and desist orders are warranted with respect to domestic respondents that maintain commercially significant U.S. inventories of the infringing product.”).)

### 4. Bond During Presidential Review Period

The Administrative Law Judge and the Commission must determine the amount of bond to be required of a respondent, pursuant to section 337(j)(3), during the 60-day Presidential review period following the issuance of permanent relief, in the event that the Commission determines to issue a remedy. The purpose of the bond is to protect the complainant from any injury. 19 C.F.R. § 210.42(a)(1)(ii), § 210.50(a)(3).

Presto contends that “[a] 100% bond per accused infringing products is appropriate.” (CIB at 133.)

**PUBLIC VERSION**

Respondents argue that no bond should issue because it is only one of 3 players in the market and, further, that Presto has failed to demonstrate that it has suffered or will suffer injury during the Presidential Review Period. (RIB at 111.)

The Staff submits that the evidence does not support Presto's request for a bond of any amount because Presto failed to prove is entitled to a bond. (SIB at 79.)

Should the Commission find a violation, the ALJ does not recommend any bond as the record shows that Presto did not put forth any information to justify any bond.

**B. Conclusion**

In accordance with the discussion of the issues contained herein, it is the RECOMMENDED DETERMINATION ("RD") of the ALJ should the Commission find a violation, that the Commission issues a LEO and CDO against Respondents. The ALJ does not recommend a general exclusion order or any bond.

Within seven days of the date of this document, each party shall submit to the office of the Administrative Law Judge a statement as to whether or not it seeks to have any portion of this document deleted from the public version. The parties' submissions must be made by hard copy by the aforementioned date.

Any party seeking to have any portion of this document deleted from the public version thereof must submit to this office (1) a copy of this document with red brackets indicating any portion asserted to contain confidential business information by the aforementioned date and (2) a list specifying where said redactions are located. The parties' submission concerning the public

**PUBLIC VERSION**

version of this document need not be filed with the Commission Secretary.

**SO ORDERED.**


---

Theodore R. Essex  
Administrative Law Judge

[REDACTED]

version of this document need not be filed with the Commission Secretary.

**SO ORDERED.**

  
Theodore R. Essex  
Administrative Law Judge

**CERTAIN RESEABLE PACKAGES WITH SLIDER  
DEVICES**

**Inv. No. 337-TA-962**

**PUBLIC CERTIFICATE OF SERVICE**

I, Lisa R. Barton, hereby certify that the attached **INITIAL DETERMINATION ON VIOLATION OF SECTION 337 AND RECOMMENDED DETERMINATION ON REMEDY AND BOND** has been served by hand upon the Commission Investigative Attorney, Andrew Beverina Esq., and the following parties as indicated on **June 30, 2016**. [Click here to enter a date.](#)



Lisa R. Barton, Secretary  
U.S. International Trade Commission  
500 E Street, SW, Room 112  
Washington, DC 20436

**On Behalf of Complainant: Reynolds Presto Products Inc.**

Patrick J. McCarthy, Esq.  
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2101 L Street, N.W.  
Suite 1000  
Washington, DC 20037

☐ Via Hand Delivery  
☒ Via Express Delivery  
☒ Via First Class Mail  
☐ Other: \_\_\_\_\_

**On Behalf of Respondents: Inteplast Group, Ltd. and Minigrip, LLC**

Mark L. Hogge, Esq.  
**DENTONS US LLP**  
1900 K Street, NW  
Washington, DC 20006

☐ Via Hand Delivery  
☒ Via Express Delivery  
☒ Via First Class Mail  
☐ Other: \_\_\_\_\_



U 7533593

**THE UNITED STATES OF AMERICA****TO ALL TO WHOM THESE PRESENTS SHALL COME:****UNITED STATES DEPARTMENT OF COMMERCE****United States Patent and Trademark Office****June 04, 2015****THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM  
THE RECORDS OF THIS OFFICE OF:****U.S. PATENT: 6,524,002****ISSUE DATE: February 25, 2003****By Authority of the****Under Secretary of Commerce for Intellectual Property****and Director of the United States Patent and Trademark Office**  
**T. WALLACE****Certifying Officer**





US006524002B2

(12) **United States Patent**  
**Tomic**

(10) **Patent No.:** **US 6,524,002 B2**  
(45) **Date of Patent:** **Feb. 25, 2003**

(54) **SLIDER DEVICE, PACKAGES, AND METHODS**

(75) **Inventor:** Mladomir Tomic, Appleton, WI (US)

(73) **Assignee:** Reynolds Consumer Products, Inc., Appleton, WI (US)

(\*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(21) **Appl. No.:** 09/918,982

(22) **Filed:** Jul. 31, 2001

(65) **Prior Publication Data**

US 2002/0012479 A1 Jan. 31, 2002

**Related U.S. Application Data**

(60) Provisional application No. 60/222,132, filed on Jul. 31, 2000.

(51) **Int. Cl.** B65D 33/16

(52) **U.S. Cl.** 383/64; 383/5; 383/61.2; 383/204; 24/399; 24/400

(58) **Field of Search** 383/61.2, 5, 64, 383/204; 24/399, 400

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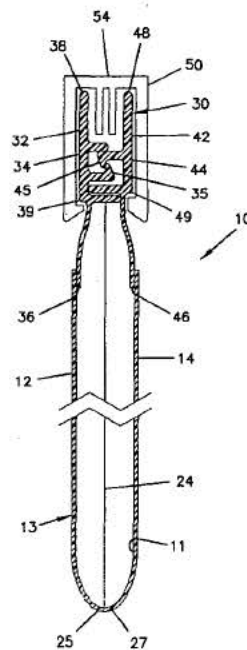
*Primary Examiner*—Jes F. Pascua

(74) *Attorney, Agent, or Firm*—Mara E. Liepa; Tracey D. Beiriger

(57) **ABSTRACT**

A slider device for use with a resealable package includes a top wall with first and second ends, a spreader depending from the top wall, a first sidewall, a second sidewall, a first hook construction extending from the first sidewall, a second hook construction extending from the second sidewall, and a guide construction. The first and second hook constructions have sloped or tapered surfaces that facilitate mounting of the slider device on a reclosable closure construction, such as a zipper arrangement. Methods of assembling and operation are described.

28 Claims, 10 Drawing Sheets



## US 6,524,002 B2

Page 2

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FIG. 1

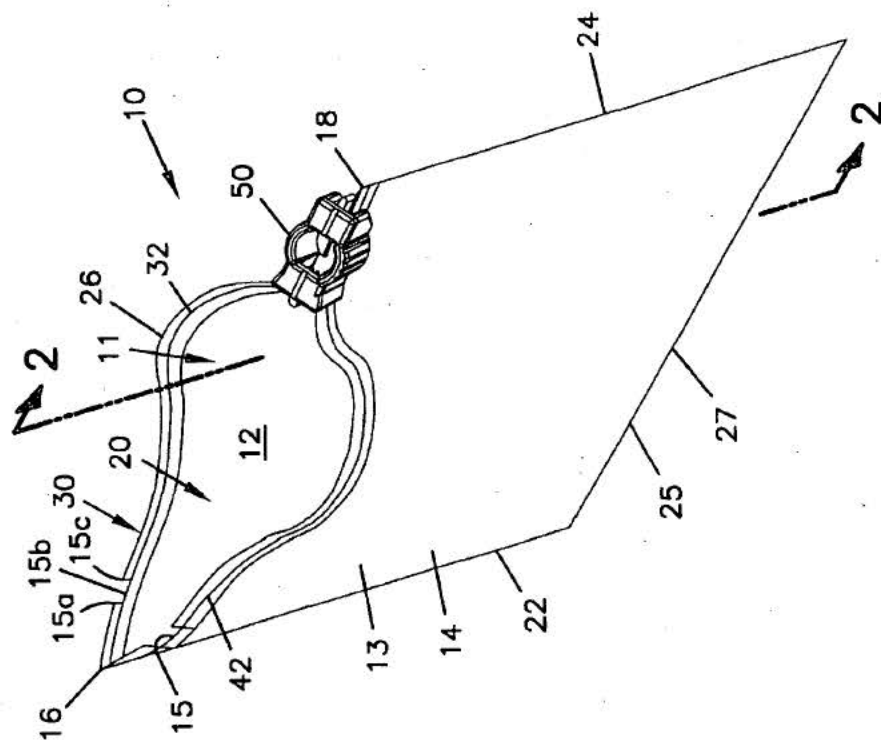


FIG. 2

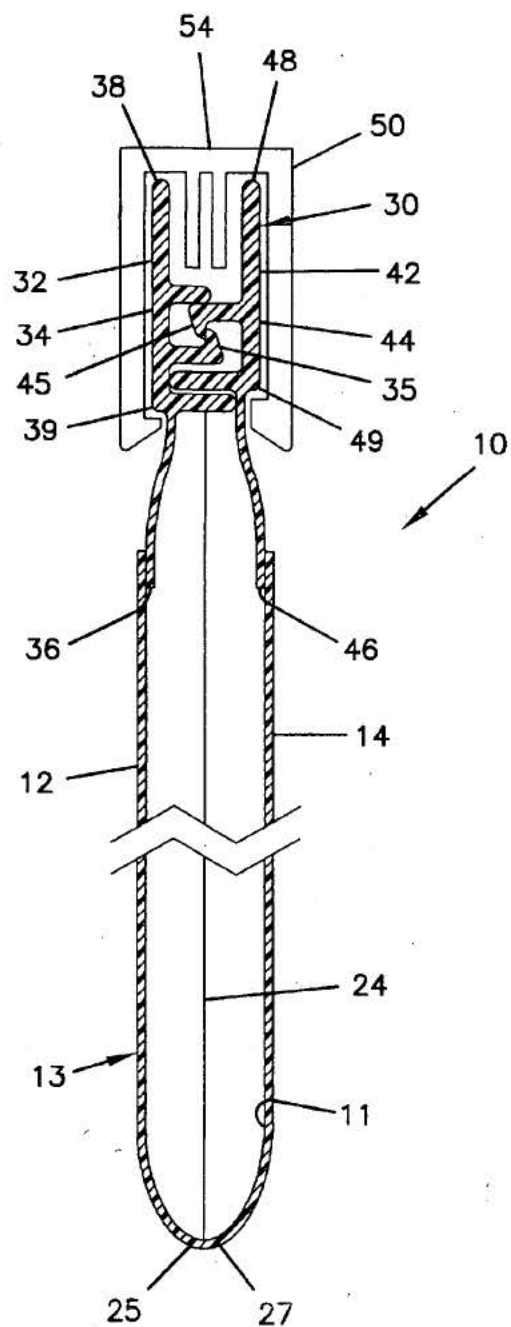
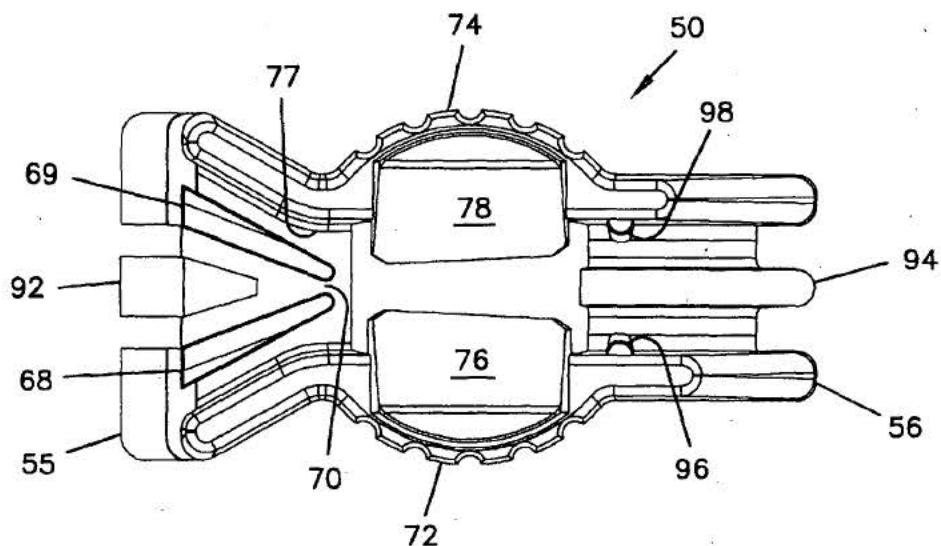




FIG. 5



U.S. Patent

Feb. 25, 2003

Sheet 5 of 10

US 6,524,002 B2

FIG. 6

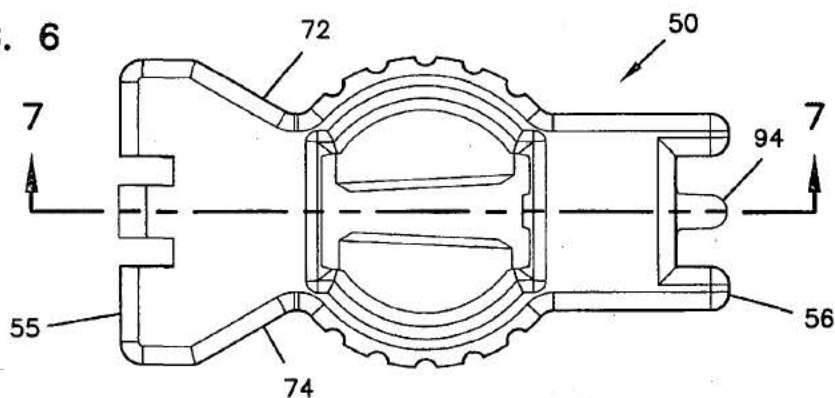


FIG. 8

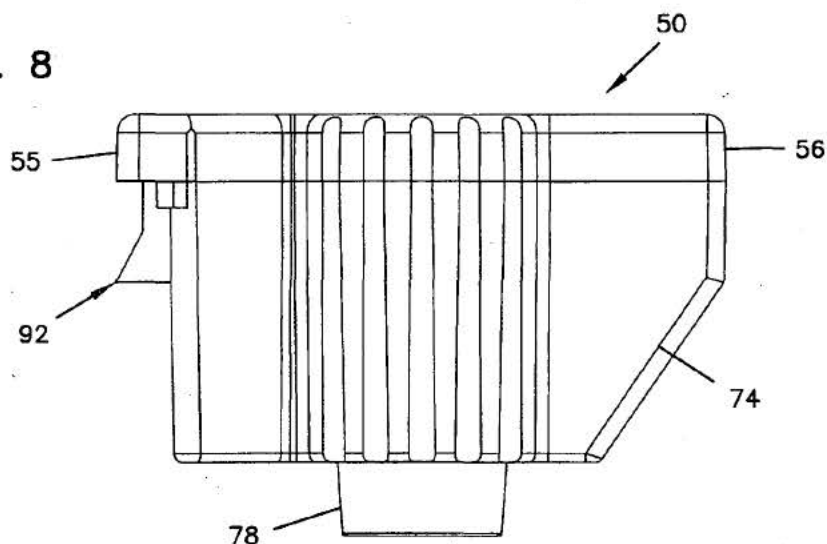


FIG. 9

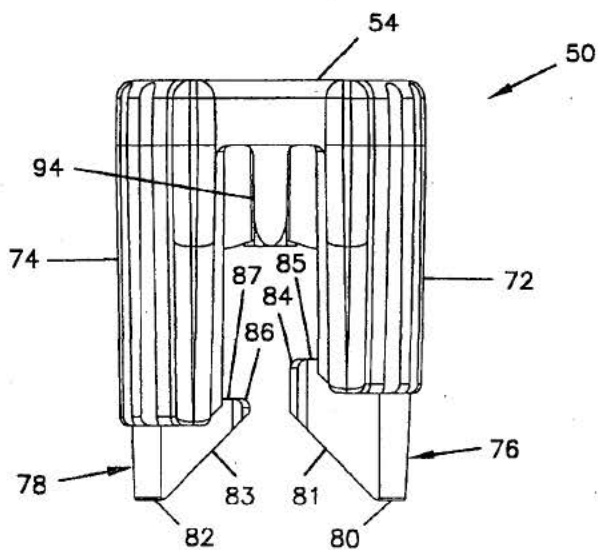


FIG. 7

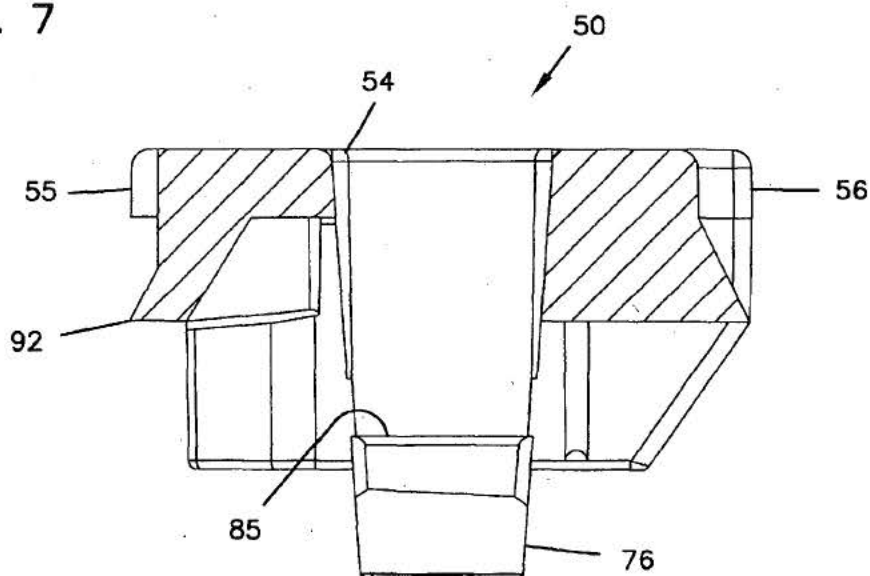


FIG. 10

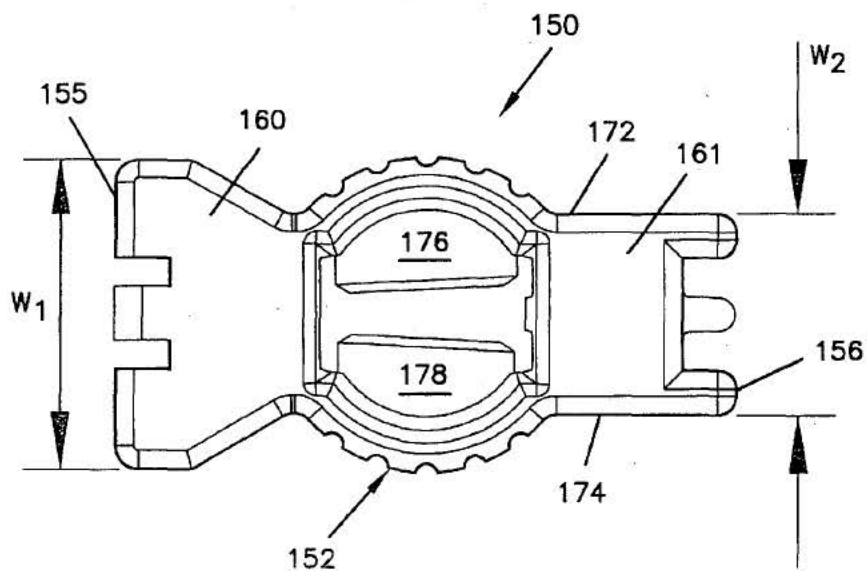




FIG. 11

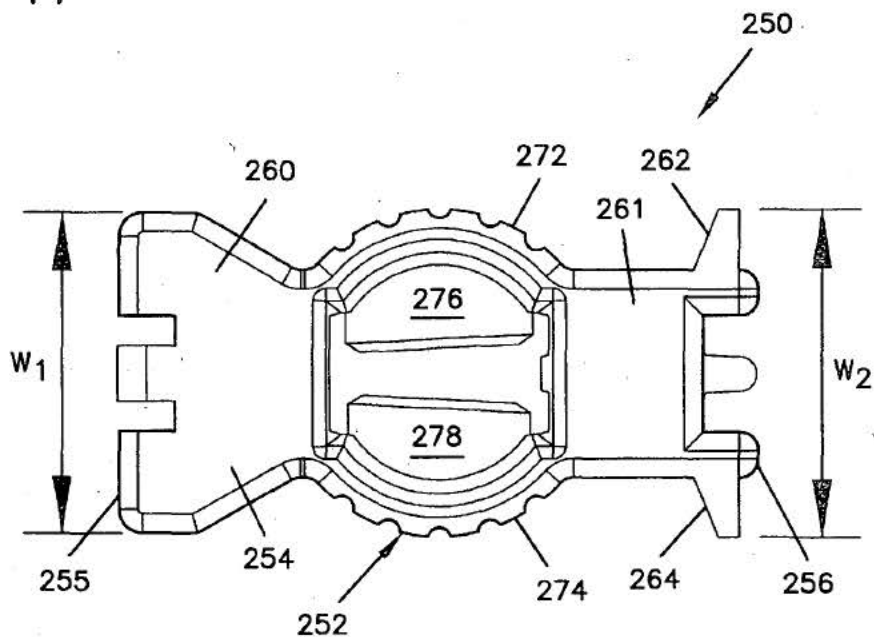


FIG. 12

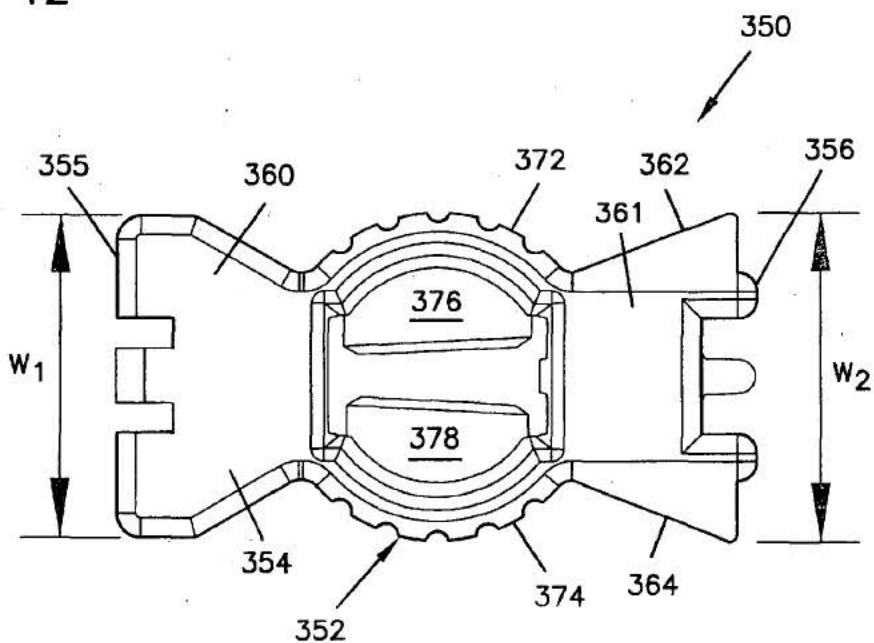


FIG. 13

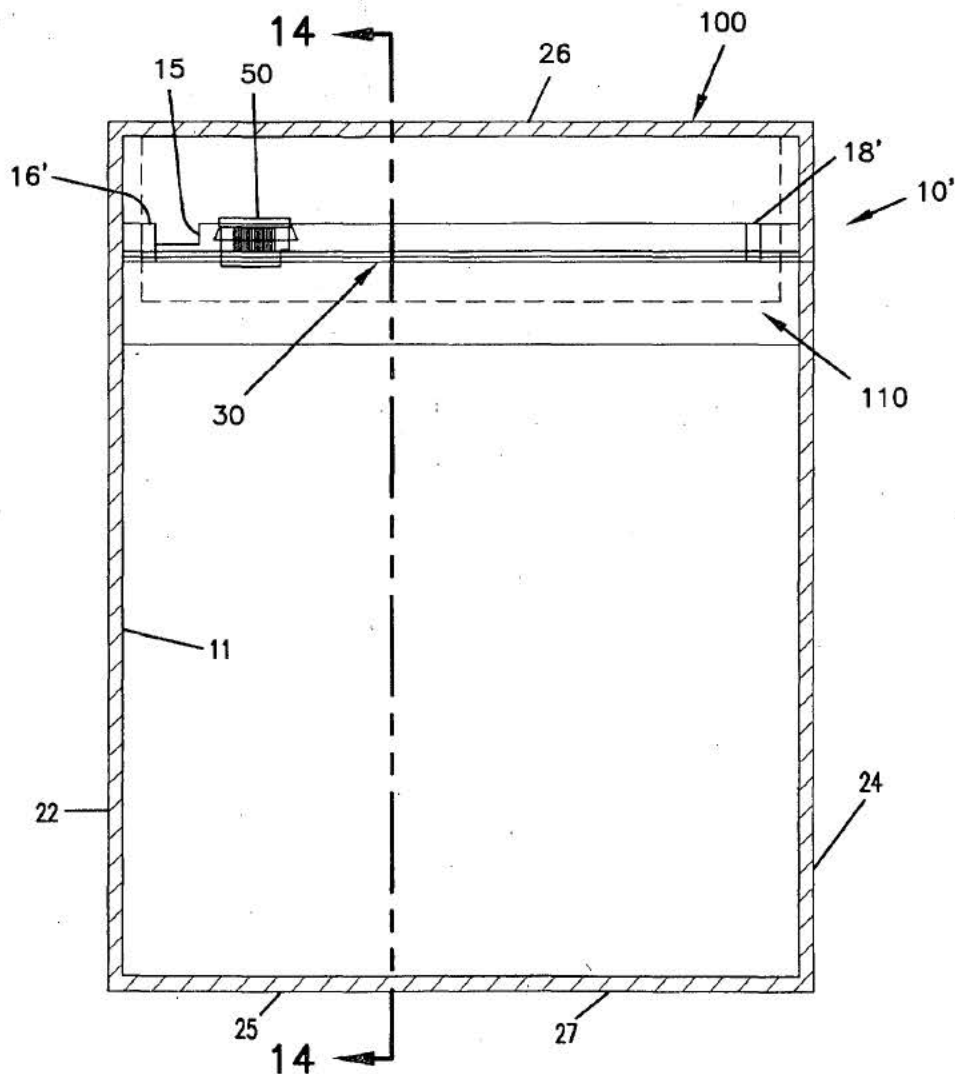
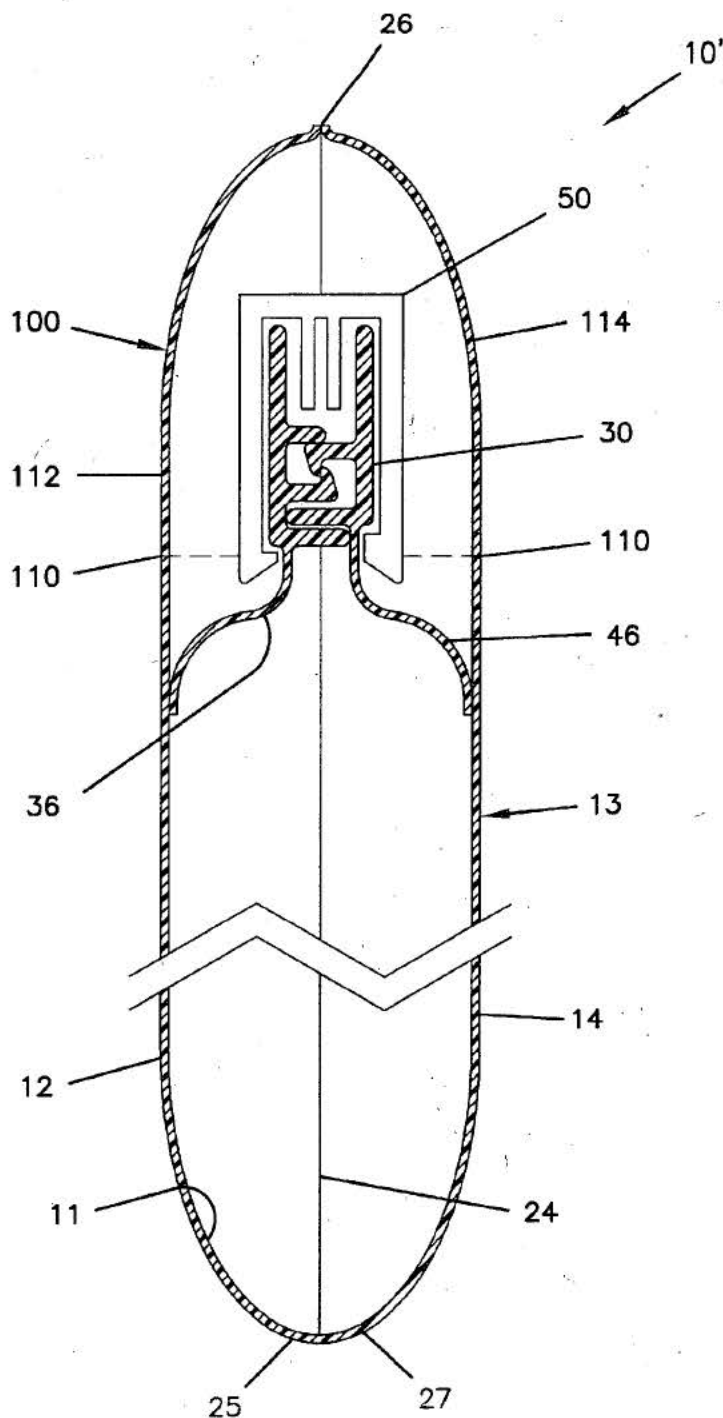


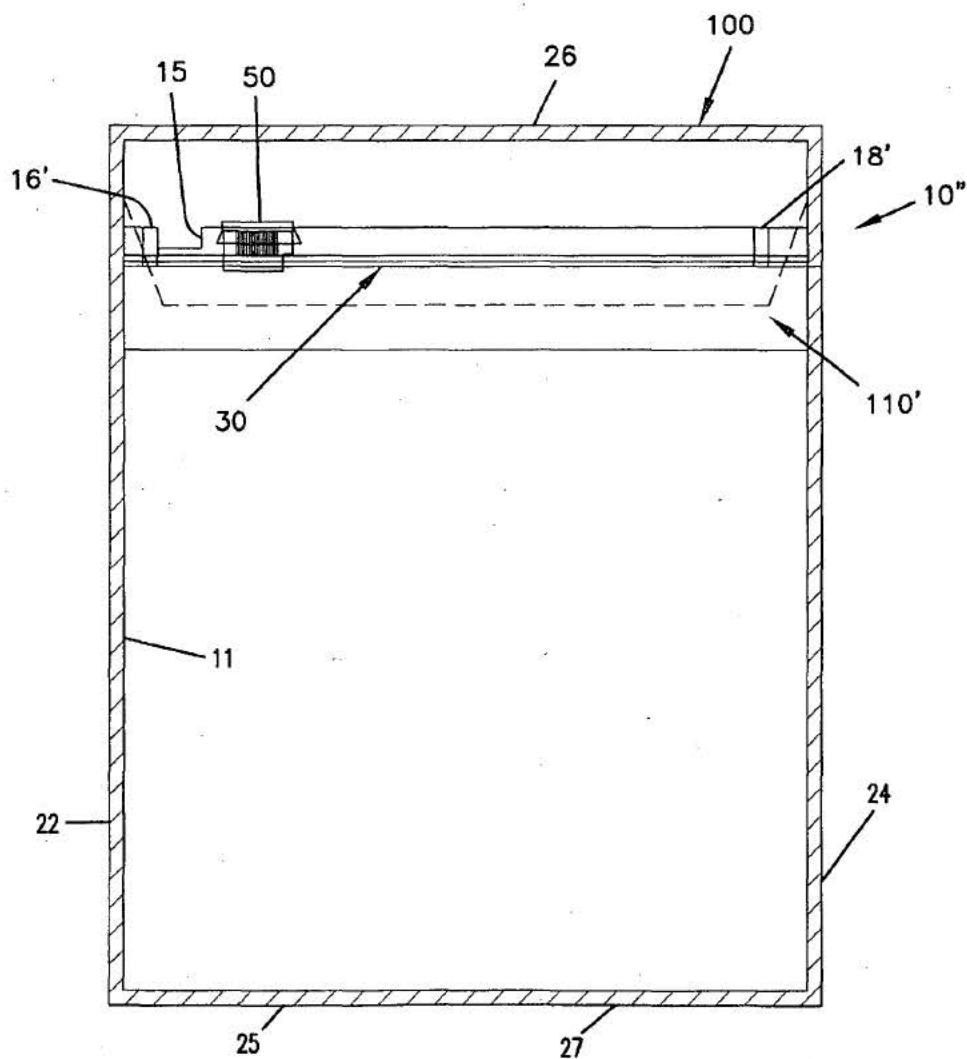


FIG. 14



US 6,524,002 B2

FIG. 15



US 6,524,002 B2

1

# SLIDER DEVICE, PACKAGES, AND METHODS

Priority under 35 U.S.C. §119(e) is claimed to provisional application serial No. 60/222,132, filed on Jul. 31, 2000, and entitled "SLIDER DEVICE, AND METHODS". The complete disclosure of application No. 60/222,132 is incorporated by reference herein.

## FIELD OF THE INVENTION

The present invention generally relates to slider devices for use with closure arrangements, such as those used for resealable packages, such as, plastic bags. In particular, the present invention relates to a slider device for use with zipper closure arrangements.

## BACKGROUND

Many packaging applications use resealable containers to store or enclose various types of articles and materials. These packages may be used to store food products, non-food consumer goods, medical supplies, waste materials, and many other articles. Resealable packages are convenient in that they can be closed and resealed after the initial opening to preserve the enclosed contents. The need to locate a storage container for the unused portion of the products in the package is thus avoided. In some instances, providing products in resealable packages appreciably enhances the marketability of those products.

Some types of resealable packages are opened and closed using a slider device. The slider device typically includes a separator or spreader-type structure at one end that opens a closure mechanism, having profiled elements or closure profiles, when the slider device travels in a first direction along the mechanism. The sidewalls of the slider device are configured so that the sidewalls engage the closure profiles and progressively move them into engagement to close the resealable package when the slider device is moved along the closure mechanism in a direction opposite the first direction.

Improvements in the design and manufacture of closure mechanisms and slider devices are desirable.

## SUMMARY OF THE DISCLOSURE

In one aspect a slider device is disclosed for use with a resealable zipper closure mechanism having a first closure profile and a second closure profile. One preferred slider device includes a top wall; a spreader depending from the top wall; first and second sidewalls; first and second hook constructions; and a guide construction projecting beyond at least one of a first end and a second end of the first sidewall. The first and second hook constructions have lower deflection surfaces, for example, to facilitate mounting of the slider device onto a zipper closure mechanism. The deflection surfaces also aid in aligning the slider device onto the closure mechanism. Each deflection surface is generally at an angle of about 40 to 50 degrees from the top wall. The first and second hook constructions further have engaging surfaces to retain the zipper closure mechanism within the slider device.

The first end of the slider device can be wider than the second end of the slider device. In other embodiments, the first end and second end have essentially the same width. In one embodiment when the ends have different widths, the wider end of the slider device, when the slider device is being moved in a direction along a zipper closure to close

2

the zipper closure, is the leading end. Thus, when the slider device is moved in the opposite direction along the zipper closure to open the zipper closure, the wider end is the trailing end and the narrow end is the leading end.

Flexible packages are provided that include a package surround wall having first and second side panels and a mouth therebetween. The side panels are joined at side edges; often, the side edges include side seals. A reclosable zipper closure is provided along the mouth for selective opening and closing of the mouth. A slider device is operably mounted on the zipper closure of the package. A tamper-evident structure can be provided encasing the slider device and zipper closure. One preferred zipper closure includes first and second closure profiles defining first and second shoulders, respectively. First and second tapered hook constructions on the slider device are included for sliding along the first and second shoulders, respectively. A guide construction can be provided on the slider device.

Methods for mounting the slider device onto the flexible package are described, as are methods of using a resealable package having the slider device. Methods of using the slider device include a step of moving a slider device along a mouth a first direction from a side seal of the resealable package until a projecting finger on the slider device engages a first side seal on the resealable package. Packages and slider devices as described herein may be used in this method.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective, schematic view of a first embodiment of a flexible, resealable package having a slider device, constructed according to principles of this disclosure;

FIG. 2 is a cross-sectional view of the resealable package of FIG. 1, taken along line 2—2;

FIG. 3 is an enlarged, top perspective view of the slider device of FIG. 1, according to principles of this disclosure;

FIG. 4 is an enlarged, bottom perspective view of the slider device of FIG. 3;

FIG. 5 is a bottom plan view of the slider device of FIGS. 3 and 4;

FIG. 6 is a top plan view of the slider device of FIGS. 3, 4 and 5;

FIG. 7 is a cross-sectional view of the slider device of FIGS. 3 through 6 taken along the line 7—7 of FIG. 6;

FIG. 8 is a side elevational view of the slider device of FIGS. 3 through 7;

FIG. 9 is an end elevational view of the slider device of FIGS. 3 through 8;

FIG. 10 is a top plan view of a slider device similar to that of FIG. 6, except that dimensions are included in FIG. 10;

FIG. 11 is a top plan view, similar to the view of FIG. 10, of a second embodiment of a slider device, according to principles of this disclosure;

FIG. 12 is a top plan view, similar to the view of FIGS. 10 and 11, of a third embodiment of a slider device, according to principles of this disclosure;

FIG. 13 is a schematic front plan view of a second embodiment of a reclosable package having the slider device shown in FIGS. 3 through 9;

FIG. 14 is a schematic cross-sectional view of the package taken along line 14—14 of FIG. 13; and

FIG. 15 is a schematic front plan view of a third embodiment of a reclosable package having the slider device shown in FIGS. 3 through 9.



US 6,524,002 B2

3

## DETAILED DESCRIPTION

Attention is directed to FIGS. 1 and 2, which illustrate an example packaging arrangement in the form of a resealable, flexible package 10, for example, a polymeric package such as a plastic bag. Package 10 has a resealable closure mechanism 30, which includes interlocking profiled elements attached to package surrounding wall 13. Package surrounding wall 13 is typically made from a flexible, polymeric, plastic film, and includes first and second opposed panel sections 12, 14. With some manufacturing applications, the first and second panel sections 12, 14 are heat-sealed together along two side edges 22, 24 and meet at a fold line 25 in order to form a three-edged containment section for a product within an interior 11 of the package 10. In the embodiment shown, the fold line 25 comprises the bottom edge 27 of the package 10. In another embodiment, first and second panel sections 12, 14 are folded at side edges 22, 24 and heat-sealed at bottom edge 27; typically, such a package includes a fin seal (not shown) within one of panel sections 12, 14. In yet another embodiment, the panel sections 12, 14 are folded at one side edge, for example, first side edge 22, and heat-sealed at second side edge 24 and at bottom edge 27. Alternatively, two separate panel sections 12, 14 of plastic film may be used and heat-sealed together along both side edges 22, 24 and at the bottom edge 27. In some embodiments, the bottom edge 27 of the package 10 may be left open to allow filling of package 10 through bottom edge 27; bottom edge 27 is then sealed after product has been positioned in the interior 11 of the package 10.

Access is provided to the interior 11 of the package 10 through a mouth 20 at a top edge 26 of the package. In the particular embodiment shown in FIG. 1, the mouth 20 extends the width of the package 10, from first side edge 22 to second side edge 24.

The resealable closure mechanism 30 is illustrated in FIG. 1 at the mouth 20 of the flexible package 10. In the embodiment shown, the resealable closure mechanism 30 extends the width of the mouth 20 at top edge 26. Alternatively, the closure mechanism 30 could be positioned on the package 10 at a location different from the top edge 26 of the package 10, depending on the application needs for the package 10.

The resealable closure mechanism 30 can be one of a variety of closure mechanisms. In the particular embodiment illustrated in FIG. 2, the resealable closure mechanism 30 is shown in the specific form of a zipper-type closure mechanism. By the term "zipper-type closure mechanism," it is meant a structure having opposite interlocking or mating profiled elements that under the application of pressure will interlock and close the region between the profiles.

In particular, the zipper-type closure mechanism in FIG. 2 is an illustration of one example of a resealable closure mechanism 30. The closure mechanism 30 includes an elongated first closure profile 32 and an elongated second closure profile 42. Typically, the closure profiles 32, 42 are manufactured separately from each other. In other embodiments, the two closure profiles 32, 42 can be manufactured as a single structure and then slit or otherwise separated. Typically, the resealable closure mechanism 30 is made of conventional materials, such as a polymeric, plastic material, for example, polyethylene, polypropylene, or PVC. In one example embodiment, the closure arrangement illustrated in FIG. 2 is manufactured using conventional extrusion and heat sealing techniques.

Still in reference to FIG. 2, the preferred first closure profile 32 includes a base strip 34, a sealing flange or

4

bonding strip 36, a first mating closure member 35, and an upper flange or distal end 38. The mating closure member 35 extends from the base strip 34 and generally projects from the base strip 34. The sealing flange 36 depends or extends downward from the base strip 34 and has sufficient structure so that it can be attached to a first panel section, such as the first panel section 12 of the package 10 shown in FIG. 2. The intersection of the base strip 34 and sealing flange 36 defines a first shoulder 39.

The preferred second closure profile 42 includes a base strip 44, a bonding strip or sealing flange 46, a second mating closure member 45, and an upper flange or distal end 48. The mating closure member 45 extends from the base strip 44 and is generally projecting from the base strip 44. The sealing flange 46 depends or extends downward from the base strip 44 and can be attached to a second panel section, such as the second panel section 14 of package 10 shown in FIG. 2. A shoulder 49, analogous to the shoulder 39, is formed at the corner of the sealing flange 46 and base strip 44.

The first and second closure profiles 32, 42 are designed to engage with one another to form the resealable closure mechanism 30. In particular, the first and second mating closure members 35, 45 are designed to mate and engage with one another. Pressure is applied to the closure profiles 32, 42 as they engage to form the openable sealed closure mechanism 30. Pulling the first closure profile 32 and the second closure profile 42 away from each other causes the two closure profiles 32, 42 to disengage, opening the package 10 of FIGS. 1 and 2. This provides access to the contents of the package 10 through the mouth 20 (FIG. 1).

The closure profiles 32, 42 can be sealed together at their ends, such as at regions 16, 18 of FIG. 1 at side edges 22, 24, to further aid in aligning the closure profiles 32, 42 for interlocking. Regions 16, 18 can be areas of crushed or melted material that keeps slider device 50 from sliding off the end of closure mechanism 30; preferably, regions 16, 18 are formed by ultrasonic crushing.

In FIG. 1, note that there is a cutout or notch 15 formed in the upper flanges 38, 48 (FIG. 2) of the resealable closure mechanism 30. The preferred notch 15 includes two straight edges or sides 15a, 15b, generally perpendicular to each other, and a side 15c that extends at, in a preferred embodiment, an oblique angle relative to side 15b. By "oblique angle", it is meant an angle that is not substantially perpendicular or straight. The side 15a preferably is generally parallel to side edge 22 and the side 15b preferably is generally parallel to the bottom edge 27. The side 15c can extend at an angle relative to side 15b of at least 30 degrees, typically about 100 to 150 degrees, typically no greater than about 160 degrees, and in the preferred embodiment about 135 degrees. The shape of notch 15, defined by sides 15a, 15b, 15c, can generally be labeled a rhombus. As to be explained in further detail below, the notch 15 serves as a "parking place" for a slider device 50 and also facilitates mounting the slider device 50 onto the resealable package 10 during initial assembly. In addition, the edge 15a closest to the side edge 22 helps to create a stop member for the slider device 50. Further, the angle that the side 15c extends helps to reduce friction between the slider device 50 and the resealable closure mechanism 30 when the slider device 50 is being moved from the notch 15 to open the closure mechanism 30. This contributes to an easier opening, more convenient package 10.

Another embodiment of a package 10' is illustrated in FIGS. 13 and 14; package 10' has a tamper-evident structure



US 6,524,002 B2

5

100 positioned over and encasing resealable closure mechanism 30. Package 10' is similar to package 10 of FIGS. 1 and 2 in that package 10' has surrounding wall 13 formed by first and second panel sections 12, 14, joined at first and second side edges 22, 24 and at bottom edge 27. Resealable closure mechanism 30 extends from first side edge 22 to second side edge 24, and movement of slider device 50 is limited by first and second regions 16', 18'. Regions 16', 18' differ from regions 16, 18 of package 10 in that regions 16', 18' are displaced from side edges 22, 24; that is, regions 16', 18' are not continuous or contiguous with side edges 22, 24.

Package 10', however, has a tamper-evident structure 100 positioned over and encasing resealable closure mechanism 30 and slider device 50. Tamper-evident structure 100 is formed by extending sections 112, 114 of panel sections 12, 14, to which are sealed sealing flanges 36, 46 of closure mechanism 30 over closure mechanism 30 and slider device 50, as shown in FIG. 14. The extending sections 112, 114 are heat-sealed together at top edge 26. In order to access slider device 50, tamper-evident structure 100 must be penetrated, for example, at area of weakness 110. An example of an area of weakness 110 is a perforation line, score line, laser score, or tear strip. Area of weakness 110 extends parallel to resealable closure mechanism 30 for a portion of the distance between first side edge 22 and second side edge 24 and extends at an angle of about 90 degrees to resealable closure mechanism for another portion of the distance; area of weakness 110 extends parallel to side edges 22, 24 for a portion of area of weakness 110.

Yet another embodiment of a package 10" is illustrated in FIG. 15; package 10" has a tamper-evident structure 100 positioned over and encasing resealable closure mechanism 30. Package 10" is similar to package 10 of FIGS. 1 and 2 and package 10' of FIGS. 13 and 14 in that package 10" has surrounding wall 13 formed by first and second panel sections 12, 14, joined at first and second side edges 22, 24 and at bottom edge 27. Resealable closure mechanism 30 extends from first side edge 22 to second side edge 24, and movement of slider device 50 is limited by first and second regions 16', 18' displaced from side edges 22, 24.

Package 10" has tamper-evident structure 100 positioned over and encasing resealable closure mechanism 30 and slider device 50. Package 10" differs from package 10' of FIGS. 13 and 14 in that tamper-evident structure 100 is penetrated at area of weakness 110'. An example of an area of weakness 110' is a perforation line, score line, laser score, or tear strip. Area of weakness 110' extends parallel to resealable closure mechanism 30 for a portion of the distance between first side edge 22 and second side edge 24 and extends at an angle other than 90 degrees to resealable closure mechanism for another portion of the distance; that is, area of weakness 110' is not parallel nor perpendicular to resealable closure mechanism for a portion of the length of resealable closure mechanism. Area of weakness 110' extends to and terminates at side edges 22, 24 rather than at top edge 26 as does area of weakness 110 of package 10'.

For additional details regarding packages having a tamper-evident structure, see for example, U.S. patent application having Ser. No. 09/706,250, filed Nov. 3, 2000, which claims priority to U.S. provisional patent application having serial No. 60/194,975, filed Apr. 5, 2000, both of which are incorporated herein by reference.

Referring again to FIGS. 1 and 2 and to FIGS. 13 and 14 and 15, the slider device 50 is provided to open and close the resealable closure mechanism 30. One preferred slider device 50 is illustrated in FIGS. 3 through 9. Although each

6

of FIGS. 3 through 9 shows various features of slider device 50, attention is directed to FIGS. 3 and 4 where slider device 50 is shown in top and bottom perspective views. Slider device 50 preferably comprises a one-piece unitary, molded plastic member with no moveable parts that are moveable with respect to one another. In general, the slider device 50 includes a housing 52 for slidably engaging the closure mechanism 30. The housing 52 is movable between a closed position of the package 10 when the housing 52 is adjacent the first side edge 22 (FIG. 1) and an open position of package 10 when the housing 52 is adjacent the second side edge 24 (FIG. 1). FIG. 1 illustrates the resealable package 10 in an open position. The housing 52 slides over the resealable closure mechanism 30 relative to the top edge 26 of the resealable package 10 to open and close the mouth 20.

The housing 52 is preferably a multi-sided construction configured for engaging or locking onto or over the resealable closure mechanism 30. In the particular embodiment illustrated in FIGS. 3 and 4, the housing 52 includes a top wall 54. By the term "top", it is meant that in the orientation of the slider device 50 shown in FIGS. 1 and 2, the top wall 54 is oriented above the remaining portions of the housing 52. It should be understood, of course, that if the housing 52 were moved from the orientation shown in FIGS. 1 and 2, the top wall 54 would not be in a top orientation. Referring again to FIGS. 3 and 4, the top wall 54 defines a first end 55 and an opposite second end 56. The top wall 54 also defines an open aperture 58. The open aperture 58 divides the top wall 54 between a first portion 60 and a second portion 61. The first portion 60 generally comprises a flat, planar portion in extension from a periphery of the open aperture 58 to the edge defined by the first end 55. Similarly, the second portion 61 generally comprises a flat, planar portion in extension from a periphery of the open aperture 58 to the edge defined by the second end 56.

The housing 52 includes a separation structure for separating the first and second closure profiles 32, 42. That is, when the resealable closure mechanism 30 is in a closed state such that the mating closure members 35, 45 are interlocked, the separation structure will apply a force to wedge open and pull the closure members 35, 45 apart from each other. In the embodiment illustrated, the housing 52 includes a spreader 66 operating as a separation structure. The spreader 66, in the preferred embodiment shown, extends or depends from the top wall 54. Preferably, the spreader 66 comprises first and second angled wedges 68, 69 separated by a gap 70 (FIG. 5) therebetween.

Attention is now directed to FIG. 5. In FIG. 5, it can be seen that the first and second wedges 68, 69 are angled toward each other, from the first end 55 of the slider device 50 to an opposite end of the wedges 68, 69, to form an overall triangle shaped spreader 66, in plan view, with an apex of the triangle pointing toward the second end 56 of the housing 52. The gap 70 between the first wedge 68 and second wedge 69 helps to contribute to convenient manufacturing techniques for the housing 52, such as injection molding. In another embodiment, first and second wedges 68, 69 are connected to each other at the apex of the triangle and a central groove, positioned where gap 70 is between wedges 68, 69 in FIG. 5, is positioned between the connected wedges. The two wedges may be tapered toward each other to form the central groove. In yet another embodiment, spreader 66 is a triangular structure that does not include individual wedges such as wedges 68, 69; rather, spreader 66 has a unitary construction.

Preferably, spreader 66 only extends partially in the resealable closure mechanism 20. More preferably, spreader



US 6,524,002 B2

7

66 only extends between the upper flanges 38, 48 and does not penetrate the mating closure members 35, 45. This helps to reduce likelihood of leaks in the closure mechanism 30.

The preferred housing 52 shown also includes first and second sidewalls 72, 74. Preferably, each of the first and second sidewalls 72, 74 extends from and is cantilevered from the top wall 54 to form a slide channel 77 therebetween. In preferred embodiments, the first and second sidewalls 72, 74 are injection molded with the remaining parts of the housing 52. In other words, preferably the housing 52 comprises a single, unitary, integral piece of material with no additional materials welded, fastened, or bolted together. As can be viewed in FIGS. 3 and 4, the sidewalls 72, 74 can include a texture, such as ribs 73, 75, to help improve gripping and handling by the user. In FIGS. 3 through 6, note that the sidewalls 72, 74 diverge away from each other at the first end 55 in the first portion 60; form convex portions in a middle section; and are generally parallel in the second portion 61. These features also improve gripping and handling by the user.

Slider device 50 further includes first and second drag reducing standoffs 96, 98, shown in FIGS. 4 and 5. The first standoff 96 preferably projects or extends from the first sidewall 72 as a protrusion or pin or rod. Likewise, the second standoff 98 projects or extends from the second sidewall 74. Preferably, the first standoff 96 extends the entire length between the bottom of the first sidewall 72 and the top wall 54. Likewise, preferably the second standoff 98 extends the entire length between the top wall 54 and the bottom edge of the second sidewall 74.

In operation, the standoffs 96, 98 slidably communicate with the first and second closure profiles 32, 42, respectively. Because of the projection and extension of the standoffs 96, 98 relative to the remaining portions of the housing 52, the amount of surface area contact or material inducing friction between the housing 52 and the closure mechanism 30 is minimized. This permits easier manipulation of the slider device 50 by the user.

Preferably, the slider device 50 includes a system for permitting the housing 52 to slide along the resealable closure mechanism 30 without becoming disengaged from the resealable package 10. In the embodiment illustrated, the slider housing 52 engages or interlocks with a portion of the resealable closure mechanism 30; in particular, the housing 52 has a first and a second hook construction 76, 78, at least one of which is seen in each of FIGS. 3 through 5 and 7 through 9, which engage with the closure mechanism 30. The first hook construction 76 preferably extends from the first sidewall 72, and the second hook construction 78 preferably extends from the second side wall 74. When slider device 50 is mount on resealable closure mechanism, the closure mechanism 30 is positioned between first hook construction 76 and second hook construction 78.

As best seen in FIG. 9, the first hook construction 76 preferably includes a hook base 80 in lateral extension from the first sidewall 72. Extending or projecting from hook base 80 is a deflection surface 81. Deflection surface 81 is oriented toward the top wall 54 as a sloped or tapered surface. Deflection surface 81 terminates at tip 84; tip 84, in combination with first side wall 72, forms a hook or catch for slidable engagement with the shoulder 39 of the first closure profile 32, as seen in FIG. 2. Tip 84 and tip 86 should be spaced apart sufficiently to allow room for resealable closure construction 30 to be positioned therebetween.

Analogously, the second hook construction 78 preferably includes a hook base 82 in extension from the second

8

sidewall 74 and in a region of the housing 52 below the open aperture 58. A deflection surface 83 projects or extends from hook base 82 in a direction oriented toward the top wall 54; deflection surface 83 is sloped, angled, or tapered toward top wall 54. Deflection surface 83 terminates at tip 86. As such, the tip 86 and second side wall 74 cooperate to form a hook or catch for engaging in a slidable manner with the shoulder 49 of the second closure profile 42, as seen in FIG. 2.

Deflection surfaces 81, 83 are configured to be at an angle other than being parallel to or perpendicular to either side walls 72, 74 and top wall 54. If an imaginary line were drawn extending each of first and second deflection surfaces 81, 83 up to top wall 54, such lines would be positioned so form an angle in relation to top wall 54. This angle between either extended imaginary line and top wall 54 is about 30 to 60 degrees, typically about 40 to 50 degrees, and preferably about 45 degrees. In other words, deflection surfaces 81, 83 form an angle of about 30 to 60 degrees, typically about 40 to 50 degrees, and preferably about 45 degrees to a plane parallel to top wall 54. The angle between the two imaginary lines is about 60 to 120 degrees, typically about 80 to 100 degrees, and preferably about 90 degrees.

Although shown as generally positioned perpendicular to top wall 54 and extending away with a generally even width, sidewalls 72, 74 can be positioned at an angle to top wall 54 other than perpendicular, or may taper down in thickness from top wall 54 to hook base 80, 82.

As can be seen in both FIG. 9 and also in FIG. 2, the first hook construction 76 is located closer to the top wall 54 than the second hook construction 78. This is generally because, in the embodiment shown, the second sidewall 74 is longer than the first sidewall 72. Additionally, first tip 84 is positioned closer to top wall 54 than second tip 86. In some embodiments, however, it may be preferred to have first sidewall 72 essentially the same length as second sidewall 74, thus providing tip 84 and engagement surface 85 essentially level with tip 86 and engagement surface 87. The structure of the hook constructions 76, 78 is generally dictated by the structure of the first and second closure profiles 32, 42.

Referring again to FIG. 9, it can be seen that sidewalls 72, 74 extend from top wall 54. The transition area between the sidewalls 72, 74 and top wall 54 can be rounded or radiused, as shown in FIG. 9, of the transition area may be a sharp point, such as a 90 degree angle between the sidewalls 72, 74 and top wall 54. A sharp transition point provides a high degree of flexibility between the top wall 54 and sidewalls 72, 74; a sharp transition point acts as a hinge or cantilever point.

The slider device 50 preferably includes a system for guiding the slider device 50 between the side edges 22, 24 (FIG. 1) and for preventing the slider device 50 from sliding off the edge of the package 10 (FIG. 1). In the embodiment illustrated, the system includes a guide construction 90 (FIG. 3). The guide construction 90 detects regions 16, 18 before any other structure on the housing 52 engages the side edges 22, 24 of the package 10. Preferably, the guide construction 90 depends from the top wall 54, but could depend from other portions of the housing 52 in other embodiments.

While a variety of structures are contemplated, in the particular embodiment illustrated in the drawings, the guide construction 90 has first and second bumpers or elongate fingers or noses 92, 94 (FIGS. 3 and 5). In operation, the first finger or nose 92 at first end 55 will abut or engage the region 16 to inhibit the housing 52 from sliding off of the resealable package 10. First finger or nose 92 is defined by



US 6,524,002 B2

9

recesses in housing 52 at first end 55, as seen in FIGS. 3 and 5 through 8. Analogously, the second finger or nose 94 at second end 56 will abut or engage the region 18 to inhibit the housing 52 from sliding off of the resealable package 10. Second finger or nose 94 is defined by recesses in housing 52 at second end 56, as seen in FIGS. 3, 5 and 6. Thus, the guide construction 90 helps to keep the housing 52 within the boundaries or periphery defined by the side edges 20 and 22. Although first finger or nose 92 is illustrated as having a fairly square or rectangular shape and second finger or nose 94 is illustrated as having a rounded shape, fingers or noses 92, 94 can have any shape, such as square, rectangular, rounded, triangular (pointed), truncated point, and the like.

As indicated previously, one preferred technique for manufacturing the slider housing 52 is by injection molding a plastic material such as polypropylene. While other methods are possible, injection molding is convenient and preferred, and it is understood that materials other than polypropylene can be used. In addition, injection molding allows for ornamental features to be molded as part of the housing 52.

To construct the flexible resealable package 10 having a slider device 50, the package 10 can be formed by either a blown extrusion process or by using a pre-formed roll of film. Various manufacturing techniques can be used to provide package 10 from preformed film. In one embodiment, the film is folded at fold line 25 and first and second panel sections 12, 14 are heat-sealed together along two side edges 22, 24 in order to form the package 10. In package 10 of FIG. 1, the fold line 25 comprises the bottom edge 27 of the package 10. In another embodiment, first and second panel sections 12, 14 are provided by folding a film at one of side edges 22, 24 and heat-sealed at the other side edge and at bottom edge 27. In a further embodiment, the film can be folded at both side edges 22, 24 and joined at a fin seal (not shown) within one of panel sections 12, 14. In a variation of this embodiment, a tube of film can be used. The tube forms side edges 22, 24 and a seal is made at bottom edge 27. In yet another embodiment, two separate film pieces form panel sections 12, 14 which are heat-sealed together along the two side edges 22, 24 and at the bottom edge 27. In all of these embodiments, a fourth side is left unsealed; this side provides mouth 20. As mentioned above, in some embodiments it may be desired to delay the sealing at bottom edge 27 in order to allow filling of the package 10 through bottom edge 27.

The resealable closure mechanism 30 can be applied to the film panel sections 12, 14 by heat sealing the sealing flanges 36, 46 of closure profiles 32, 42 to the panel sections 12, 14. The notch 15 can be cut into the upper flanges or distal ends 38, 48 of the closure profiles 32, 42. Next, the side seals including the regions 16, 18 can be formed, such as by ultrasonic crushing. The housing 52 can then be mounted over the resealable closure mechanism 30 by sliding it over distal ends 38, 48. It is understood that the process of forming the package, including making regions 16, 18, notch 15, and the like, can be done in any sequence of steps; in some embodiments, multiple steps can be done simultaneously. Additionally, in some embodiments it may be desired to have the package filled with items prior to mounting slider device 50.

During the mounting of slider device 50, distal ends 38, 48 of closure profiles 32, 42 are urged by deflection surfaces 81, 83 of hook constructions 76, 78 into slide channel 77. The tapered or sloped surfaces of deflection surfaces 81, 83 facilitate positioning distal ends 38, 48 and closure profiles 32, 42 into slide channel 77. The sloped deflection surfaces

10

81, 83 properly orient the housing 52 during the mounting process if slider device 50 is misaligned prior to being mounted. It is understood that the slider device 50 can be mounted onto the closure mechanism 30 after the closure mechanism 30 is incorporated into a package 10, as described above, or the slider device 50 can be mounted on the closure mechanism 30 before the closure mechanism 30 is incorporated into a package. Slider device 50 can be mounted onto mated or unmated closure profiles 32, 42.

Various techniques for mounting slider device 50 onto closure mechanism 30 are available. Example methods are taught in U.S. patent applications Ser. Nos. 09/611,167, 09/611,174, and 09/611,236 all filed Jul. 6, 2000; U.S. patent application Ser. No. 09/363,626 filed Jul. 29, 1999; and U.S. patent application Ser. No. 09/351,830 filed Jul. 12, 1999, each of which is incorporated herein by reference. The slider device 50 can be mounted by a horizontal, vertical, angled, or any other mounting or application process. The mounting of slider device 50, whether accomplished by these example techniques or others, can be accomplished mechanically, pneumatically, or manually. In some mounting processes, the hook constructions 76, 78 may be at least partially deflected prior to contacting closure mechanism 30.

As described above, the housing 52 is pressed onto the resealable closure mechanism 30 over the distal ends 38, 48 (FIG. 2) so that distal ends 38, 48 abut deflections surfaces 81, 83. As the distal ends 38, 48 are forced against surfaces 81, 83, the first and second hook constructions 76, 78 deform or deflect outwardly until the tips 84, 86 of first and second hook constructions 76, 78 snap over the shoulders 39, 49 of the closure profiles 32, 42 and the slider device 50 is mounted on closure mechanism 30. The hook constructions 76, 78 are preferably sufficiently flexible to facilitate mounting of the slider device 50, yet sufficiently stiff to retain the slider device 50 onto the resealable closure mechanism 30. The amount of flex in hook constructions 76, 78 needs to be balanced to accomplish these two goals.

In some embodiments, it is desired to mount housing 52 into or onto the notch 15 (FIG. 1), if present. The notch 15 can be any length; in some embodiments, the notch 15 has a minimal length that can be best described as a slit. In other embodiments, notch 15 is twice as long as the length of the spreader 66. A length twice as long as spreader 66 is preferred, because when the slider housing 52 is moved into the closed position at notch 15, the widest part of the spreader 66 will be situated in the open area represented by the notch 15. As a result, the spreader 66 will not spread the walls of the closure mechanism 30 at this location. This ensures that when the slider housing 52 is moved all the way to the closed position, the closure mechanism 30 will be completely closed and, even in the part of the closure mechanism 30 located under the spreader 66, will not be spread or biased open. In other embodiments, it is desired to mount slider device 50 on closure mechanism 30 closer to one of side edge 22 or 24 rather than at notch 15. For example, slider device 50 can be mounted between first side edge 22 and notch 15, or between second side edge 24 and notch 15. In either embodiment, after slider device 50 has been mounted on the closure mechanism 30, slider device 50 can be moved into position at notch 15, for example, by guide fingers or bars that push the slider device 50 as the package moves.

To operate the mounted slider device 50, the slider device 50 is slid relative to the resealable closure mechanism 30 from the closed position at first side edge 22 to the open position at second side edge 24. As the housing 52 is moved from the closed position to the open position, the spreader 66



US 6,524,002 B2

11

forces the mated closure members 35, 45 apart from each other. The spreader 66 is spaced between the upper flanges or distal ends 38, 48 of the profile members 32, 42 and opens the mouth 20 as the slider housing 52 is moved along the resealable closure mechanism 30 of package 10 in the direction toward where the triangle of spreader 66 "points." The opening happens because the triangular shape of the spreader 66 operates as a cam to force the closure profiles 32, 42 apart, and thus to disengage the interlocking closure members 35, 45. To close the resealable closure mechanism 30, the slider housing 52 is moved relative to the resealable closure mechanism 30 from the open position to the closed position. The closing happens because the slide channel 77 between the sidewalls 72, 74 is narrower at second end 56 (the end away or remote from the spreader 66) and is wider at the first end 55 (the end near or adjacent to the spreader 66). The spreader 66 does not depend very far downwardly into the closure mechanism 30, and it never actually passes between the interlocking closure members 35, 45, thus helping prevent leaks in the closure mechanism 30 when the slider device 50 is in the closed position. Note that no extra tools are needed for operation.

FIGS. 10, 11 and 12 show various alternative embodiments of slider device 50. Slider device 150 of FIG. 10 is essentially the same as slider device 50 of FIGS. 3 through 9. Slider device 150 has housing 152 defined by first and second sidewalls 172, 174 and includes first portion 160 and second portion 161. Sidewalls 172, 174 form hook constructions 176, 178. Slider device 150 at first end 155 has a width of W1; at second end 156, slider device 150 has a width of W2. Each of width W1 and W2 are defined by the distance between first sidewall 172 and second sidewall 174. In the embodiment shown, W1 is greater than W2; that is, first end 155 is wider than second end 156.

In alternate embodiments, W1 and W2 can be the same width; this may be done, for example, to facilitate mounting and orienting the slider device onto the closure mechanism 30. FIGS. 11 and 12 show alternate embodiments of slider device 50, 150.

In FIG. 11, slider device 250 has housing 252 defined by first and second sidewalls 272, 274 that form hook constructions 276, 278. Housing 252 further has first and second portions 260, 261 at first and second ends 255, 256, respectively. Second portion 261 includes projecting tabs 262, 264 which extend from second portion 261. Slider device 250 has a width W1 at first end 255 and a width W2 at second end 256. Width W1 is defined by the distance between first sidewall 272 and second sidewall 274, and width W2 is defined by tabs 262, 264. In slider device 250, W1 is essentially the same as W2. The equal end widths facilitate aligning and mounting of slider device 250 onto closure mechanism 30, and may improve handling of the slider device 50 as the slider device 50 is moved along closure mechanism 30.

In FIG. 12, slider device 350 has housing 352 defined by first and second sidewalls 372, 374 that form hook constructions 376, 378. Housing 352 further has first and second portions 360, 361 at first and second ends 355, 356, respectively. Second portion 361 includes angled wings 362, 364 which extend from second portion 361. Slider device 350 has a width W1 at first end 355 and a width W2 at second end 356. Width W1 is defined by the distance between first sidewall 372 and second sidewall 374, and width W2 is defined by wings 362, 364. For slider device 350, W1 is essentially the same as W2.

Tabs 262, 264 and wings 362, 364 may extend from the top wall 254, 354, respectively, to the bottom edge of slider

12

device 250, 350, but preferably, tabs 262, 264 and wings 362, 364 do not extend to the bottom edge as a continuous feature. In one embodiment, tabs 262, 264 and wings 362, 364 are tapered as they approach the bottom edge. In another embodiment, tabs 262, 264 and wings 362, 364 can be segmented into multiple structures along the length from the top wall 254, 354 to the bottom edge. The elimination of tabs 262, 264 and wings 362, 364 extending continuously the entire height of slider device 250, 350 minimizes the amount of material needed to manufacture the slider device, and increases the outward flexibility of the housing 252, 352.

#### AN EXAMPLE EMBODIMENT

It will be understood that a wide variety of specific configurations and applications are feasible, using techniques described herein. In this section, a particular slider device is described.

The slider housing 52 has an overall length from the first end 55 to the second end 56 of at least about 0.5 inch (about 13 mm), no greater than about 2 inches (about 51 mm), typically about 0.65–0.75 inch (about 16–19 mm), and in a preferred embodiment about 0.693 inch (about 18 mm).

At the first end 55, the width of the slider housing 52, as defined by the distance between the outer part of the sidewalls 72, 74, is at least about 0.1 inch (about 3 mm), no greater than about 0.6 inch (about 15.2 mm), typically about 0.2–0.4 inch (about 5.1–10.2 mm), and in preferred embodiments about 0.3–0.4 inch (about 7.6–10.2 mm). A particular preferred embodiment is about 0.346 inch (about 8.8 mm).

At the second end 56, the width of the slider housing 52, as defined by the distance between the outer part of the sidewalls 72, 74, is at least about 0.1 inch (about 3 mm), no greater than about 0.5 inch (about 13 mm), typically about 0.2–0.25 inch (about 5.1–6.4 mm), and in preferred embodiments about 0.23–0.24 inch (about 5.8–6.1 mm). A particular preferred embodiment is about 0.225 inch (about 5.7 mm).

The width of housing 52, between first end 55 and second end 56, as defined by the distance between the outer part of the sidewalls 72, 74, is at least about 0.1 inch (about 3 mm), no greater than about 0.7 inch (about 17.8 mm), typically about 0.2–0.5 inch (about 5.1–12.7 mm), and in preferred embodiments about 0.3–0.4 inch (about 7.6–10.2 mm). A particular preferred embodiment is about 0.353 inch (about 9 mm).

The thickness of top wall 54 is at least 0.05 inch (about 1.3 mm), no greater than about 0.1 inch (about 2.5 mm), and is typically about 0.06 to 0.09 inch (about 1.5–2.3 mm). In a preferred embodiment, the thickness of top wall 54 is about 0.075 inch (about 1.9 mm).

The height of housing 52, that is, from top wall 54 to either hook base 80 or hook base 82 is at least about 0.3 inch (about 7.6 mm), no greater than about 1 inch (about 25 mm), typically about 0.35–0.5 inch (about 8.9–12.7 mm), and in preferred embodiments about 0.475 inch (about 12 mm).

The length of the second sidewall 74, that is, from top wall 54 to engagement surface 87 is at least about 0.2 inch (about 5 mm), no greater than about 1 inch (about 25 mm), typically about 0.275–0.45 inch (about 7–11.4 mm), and in preferred embodiments about 0.3 to 0.4 inch (about 7.6–10.2 mm). A particular distance is about 0.362 inch (about 9.2 mm). The length of the first sidewall 72, from top wall 54 to engagement surface 85, is at least about 50 percent of the length of the sidewall 74, no greater than about 100 percent, and typically about 85–95 percent. This would be typically about 0.23 to 0.43 inch (about 5.9–10.9 mm), and in



US 6,524,002 B2

13

preferred embodiments about 0.25 to 0.38 inch (about 6.5–9.6 mm). A particular preferred distance is about 0.318 inch (about 8.1 mm).

The finger 92 is generally flush with first end 55, and finger 94 is generally flush with second end 56. In some embodiments, either one or both of fingers 92, 94 may extend from end 55, 56, respectively, at least about 0.02 inch (about 0.5 mm), no greater than about 0.25 inch (about 6 mm), typically about 0.035–0.045 inch (about 0.9–1.1 mm).

Each of the fingers 92, 94 has a width of at least about 0.02 inch (about 0.5 mm), no greater than about 0.2 inch (about 5 mm), typically about 0.04–0.07 inch (about 1–1.8 mm), and in preferred embodiments about 0.05–0.06 inch (about 1.3–1.5 mm).

Each wedge 68, 69 is spaced from its respective sidewall 72, 74 by a distance of at least about 0.01 inch (about 0.3 mm), no greater than about 0.1 inch (about 3 mm), typically about 0.020–0.035 inch (about 0.5–0.9 mm), and in preferred embodiments about 0.022–0.029 inch (about 0.6–0.7 mm).

The spreader 66 has a length at the base of its triangle portion of at least about 0.05 inch (about 1.3 mm), no greater than about 0.25 inch (about 6.4 mm), typically about 0.11–0.150 inch (about 2.8–3.8 mm), and in preferred embodiments about 0.12–0.14 inch (about 3.0–3.6 mm).

The depth of the spreader 66 from the top wall 54 is at least about 0.05 inch (about 1.3 mm), no greater than about 0.5 inch (about 13 mm), typically about 0.11–0.2 inch (about 2.8–5.1 mm), and in preferred embodiments about 0.11–0.13 inch (about 2.8–3.3 mm).

The first and second standoffs 96, 98 project at least about 0.0085 inch (about 0.22 mm) from their respective sidewalls 72, 74, typically at least about 0.01 inch (about 0.25 mm).

The above specification and examples are believed to provide a complete description of the manufacture and use of particular embodiments of the invention. Many embodiments of the invention can be made without departing from the spirit and scope of the invention.

I claim:

1. A flexible package comprising:

- (a) a package surrounding wall having first and second panel sections and a mouth therebetween; said mouth providing access to a package interior;
- (b) a resealable closure mechanism along said mouth for selective opening and closing of said mouth; said closure mechanism extending from a first side edge to a second side edge and including first and second closure profiles;
  - (i) said first and second closure profiles being constructed and arranged to interlock; and
- (c) a slider device for selectively opening and closing said closure mechanism; said slider device having a housing defined by a first sidewall and a second sidewall each having a first end and a second end, the slider device further having:
  - (i) a top wall;
  - (ii) a spreader depending from said top wall for separating said first and second closure profiles;
  - (iii) a first hook construction depending from said top wall, said first hook construction having:
    - (A) a first end opposite said top wall, the first end defining a hook length;
    - (B) a first deflection surface positioned on an interior surface of said first hook construction at said first end and positioned at an angle of about 40 to 50 degrees from said top wall; and

14

(C) a first engagement surface to engage said first closure profile, the first engagement surface extending the hook length;

(iv) a second hook construction depending from said top wall, said second hook construction having:

(A) a second end opposite said top wall, the second end defining a hook length;

(B) a second deflection surface positioned on an interior surface of said second hook construction at said first end and positioned at an angle of about 40 to 50 degrees from said top wall; and

(C) a second engagement surface to engage said second closure profile, the second engagement surface extending the hook length; and

(v) a channel defined by said first and second hook constructions and extending therebetween to accept said closure mechanism.

2. A flexible package according to claim 1, wherein:

(a) said first hook construction comprises:

(i) a first hook base defined by said first end;

(ii) said first hook base extending from said first sidewall to said first engagement surface;

(iii) said first engagement surface and said first deflection surface joined at a first tip; and

(b) said second hook construction comprises:

(i) a second hook base defined by said second end;

(ii) said second hook base extending from said second sidewall to said second engagement surface;

(iii) said second engagement surface and said second deflection surface joined at a second tip.

3. A flexible package according to claim 2, wherein said first deflection surface and said second deflection surface have an angle therebetween of about 80 to 100 degrees.

4. A flexible package according to claim 3, wherein said first deflection surface and said second deflection surface have an angle therebetween of about 90 degrees.

5. A flexible package according to claim 2, wherein said slider device further comprises:

(a) a guide construction extending past at least one of said first and second ends of said first sidewall in a direction away from remaining portions of said slider device and toward one of said first and second side edges;

(i) said guide construction being constructed and arranged to abut at least one of said first and second side seals, when the slider device is selectively moved along the mouth adjacent to one of the first and second seals.

6. A flexible package according to claim 2, said slider device having:

(a) a first width at said first end; and

(b) a second width at said second end, said first width being essentially equal to said second width.

7. A flexible package according to claim 2, wherein:

(a) said first closure profile defines a first shoulder;

(b) said first engagement surface engages said first shoulder;

(c) said second closure profile defines a second shoulder; and

(d) said second engagement surface engages said second shoulder.

8. A flexible package according to claim 7, wherein each of said first and second upper flanges defines a notch adjacent to said first side edge.

9. A flexible package according to claim 1, further comprising a tamper-evident structure encasing said slider device and said resealable closure mechanism.



US 6,524,002 B2

15

10. A flexible package according to claim 9, said tamper-evident structure having an area of weakness.

11. A flexible package according to claim 10, wherein said area of weakness:

- (a) extends essentially parallel to said resealable closure mechanism for a first portion of said resealable closure mechanism; and
- (b) extends to each of said first side edge and said second side edge at an angle other than perpendicular to said resealable closure mechanism.

12. A flexible package comprising:

- (a) a package surrounding wall having first and second panel sections and a mouth therebetween; said mouth providing access to a package interior;
- (b) a resealable closure mechanism along said mouth for selective opening and closing of said mouth; said closure mechanism extending from a first side edge to a second side edge and including first and second closure profiles;
  - (i) said first and second closure profiles being constructed and arranged to interlock; and
- (c) a slider device for selectively opening and closing said closure mechanism; said slider device having a housing defined by a first sidewall and a second sidewall each having a first end and a second end, the slider device further having:
  - (i) a top wall;
  - (ii) a spreader depending from said top wall for separating said first and second closure profiles;
  - (iii) a first hook construction defined by said first end and depending from said top wall, said first hook construction having:
    - (A) a first end opposite said top wall;
    - (B) a first deflection surface positioned on an internal surface of said first hook construction at said first end and positioned at an angle of about 40 to 50 degrees from said top wall;
    - (C) a first engagement surface to engage said first closure profile;
    - (D) a first hook base extending from said first sidewall to said first engagement surface;
    - (E) said first engagement surface and said first deflection surface joined at a first tip;
  - (iv) a second hook construction depending from said top wall, said second hook construction having:
    - (A) a second end opposite said top wall;
    - (B) a second deflection surface positioned on an interior surface of said second hook construction at said first end and positioned at an angle of about 40 to 50 degrees from said top wall; and
    - (C) a second engagement surface to engage said second closure profile;
    - (D) a second hook base defined by said second end, said second hook base extending from said second sidewall to said second engagement surface;
    - (E) said second engagement surface and said second deflection surface joined at a second tip;
  - (v) a channel defined by said first and second hook constructions and extending therebetween to accept said closure mechanism; and
  - (vi) a guide construction extending past at least one of said first and second ends of said first sidewall in a direction away from remaining portions of said slider device and toward one of said first and second side edges;
    - (A) said guide construction being constructed and arranged to abut at least one of said first and

16

second side seals, when the slider device is selectively moved along the mouth adjacent to one of the first and second seals; and

- (B) said guide construction including first and second fingers depending from said top wall; and said first finger projecting beyond said first end.

13. A flexible package according to claim 12, wherein said first deflection surface and said second deflection surface have an angle therebetween of about 80 to 100 degrees.

14. A flexible package according to claim 13, wherein said first deflection surface and said second deflection surface have an angle therebetween of about 90 degrees.

15. A flexible package according to claim 12, further comprising a tamper-evident structure encasing said slider device and said resealable closure mechanism.

16. A slider device for use with a resealable closure mechanism having interlocking closure members, the slider device having a housing having a first end and a second end, the slider device comprising:

- (a) a top wall;
  - (b) a spreader depending from and being integral with said top wall; said spreader for separating interlocked closure members, when the slider device is operably mounted on the resealable closure mechanism having interlocking closure members;
  - (c) a first sidewall extending from said top wall and defining a first hook construction at an end opposite said top wall, said first hook construction having a hook length; said first hook construction comprising:
    - (i) a first deflection surface positioned on an internal surface of said first hook construction and extending said hook length;
    - (ii) said first deflection surface forming an angle of about 40 to 50 degrees to a plane parallel to said top wall;
    - (iii) said first hook construction further comprising a first engagement surface, said first engagement surface and said first deflection surface joining at a first tip;
  - (d) a second sidewall extending from said top wall and defining a second hook construction at an end opposite said top wall, said second hook construction having a hook length; said second hook construction comprising:
    - (i) a second deflection surface positioned on an internal surface of said second hook construction and extending said hook length;
    - (ii) said second deflection surface forming an angle of about 40 to 50 degrees to a plane parallel to said top wall;
    - (iii) said second hook construction further comprising a second engagement surface, said second engagement surface and said second deflection surface joining at a second tip;
    - (iv) said first and second hook constructions for operably mounting and locking said slider device onto the resealable closure mechanism; and
  - (e) a channel defined by said first and second hook constructions between said first tip and said second tip.
17. A slider device according to claim 16, wherein:
- (a) said first hook construction further comprises:
    - (i) a first hook base extending from said first sidewall to said first engagement surface; and
  - (b) said second hook construction comprises:
    - (i) a second hook base extending from said second sidewall to said second engagement surface.



US 6,524,002 B2

17

18. A slider device according to claim 17, wherein a line extending from said first deflection surface and a line extending from said second deflection surface have an angle therebetween of about 80 to 100 degrees.

19. A slider device according to claim 18, wherein the line from said first deflection surface and the line from said second deflection surface have an angle therebetween of about 90 degrees.

20. A slider device according to claim 16, wherein:

(a) said first and second sidewalls define a slide channel therebetween for receipt of interlocking closure members, when the slider device is operably mounted on the resealable closure mechanism with interlocking closure members.

21. A slider device according to claim 16, further comprising a guide construction depending from said top wall.

22. A slider device for use with a resealable closure mechanism having interlocking closure members, the slider device having a housing having a first end and a second end, the slider device comprising:

- (a) a top wall;
- (b) a spreader depending from and being integral with said top wall; said spreader for separating interlocked closure members, when the slider device is operably mounted on the resealable closure mechanism having interlocking closure members;
- (c) a first sidewall extending from said top wall and defining a first hook construction at an end opposite said top wall; said first hook construction comprising:
  - (i) a first deflection surface positioned on an internal surface of said first hook construction;
  - (ii) said first deflection surface forming an angle of about 40 to 50 degrees to a plane parallel to said top wall;
  - (iii) said first hook construction further comprising a first engagement surface, said first engagement surface and said first deflection surface joining at a first tip;
- (d) a second sidewall extending from said top wall and defining a second hook construction at an end opposite said top wall, said second hook construction comprising:
  - (i) a second deflection surface positioned on an internal surface of said second hook construction;
  - (ii) said second deflection surface forming an angle of about 40 to 50 degrees to a plane parallel to said top wall;
  - (iii) said second hook construction further comprising a second engagement surface, said second engagement surface and said second deflection surface joining at a second tip;
  - (iv) said first and second hook constructions for operably mounting and locking said slider device onto the resealable closure mechanism;
- (e) a channel defined by said first and second hook constructions between said first tip and said second tip;
- (f) a guide construction depending from said top wall said guide construction including first and second fingers;

18

said first finger positioned at a first end of said slider device; and said second finger positioned at a second end of said slider device.

23. A slider device according to claim 22, wherein:

- (a) said top wall defines an open aperture;
  - (i) a first portion of said top wall extending between said first end and said open aperture; said first finger depending from said first portion; and
  - (ii) a second portion of said top wall extending between said second end and said open aperture; said second finger depending from said second portion.

24. A slider device according to claim 23, wherein:

- (a) a portion of said first hook construction is under said open aperture in said top wall; and
- (b) a portion of said second hook construction is under said open aperture in said top wall.

25. A slider device according to claim 23, wherein:

- (a) said spreader comprises first and second angled wedges defining a gap therebetween; said first and second angled wedges depending from said first portion of said top wall.

26. A slider device according to claim 23, wherein:

- (a) said spreader comprises first and second angled wedges defining a groove therebetween; said first and second angled wedges depending from said first portion of said top wall.

27. A method of mounting a slider device on a resealable closure mechanism, the closure mechanism comprising first and second interlocking closure profiles, each of the first and second interlocking closure profiles comprising a mating closure member, a sealing flange, and an upper flange; the slider device comprising a top wall and first and second hook constructions projecting from the top wall, each of the first and second hook constructions having a hook length and comprising a deflection surface positioned on an internal surface of the hook construction and extending the hook length, and an engagement surface, each of the deflection surfaces being at an angle of 40 to 50 degrees to a plane parallel to the top wall, and an area between the first and second hook constructions for receiving the first and second interlocking closure profiles; said method comprising:

- (a) contacting the upper flanges of the closure profiles against the deflection surfaces; and
- (b) urging the closure profiles against the deflection surfaces and between the hooking constructions into the area between the first and second hook constructions.

28. A method according to claim 27, wherein said step of urging the closure profiles against the deflection surfaces and between the hooking constructions into the area between the first and second hook constructions comprises:

- (a) deflecting at least one of the first and second hook construction to expand the area between the first and second hook constructions.

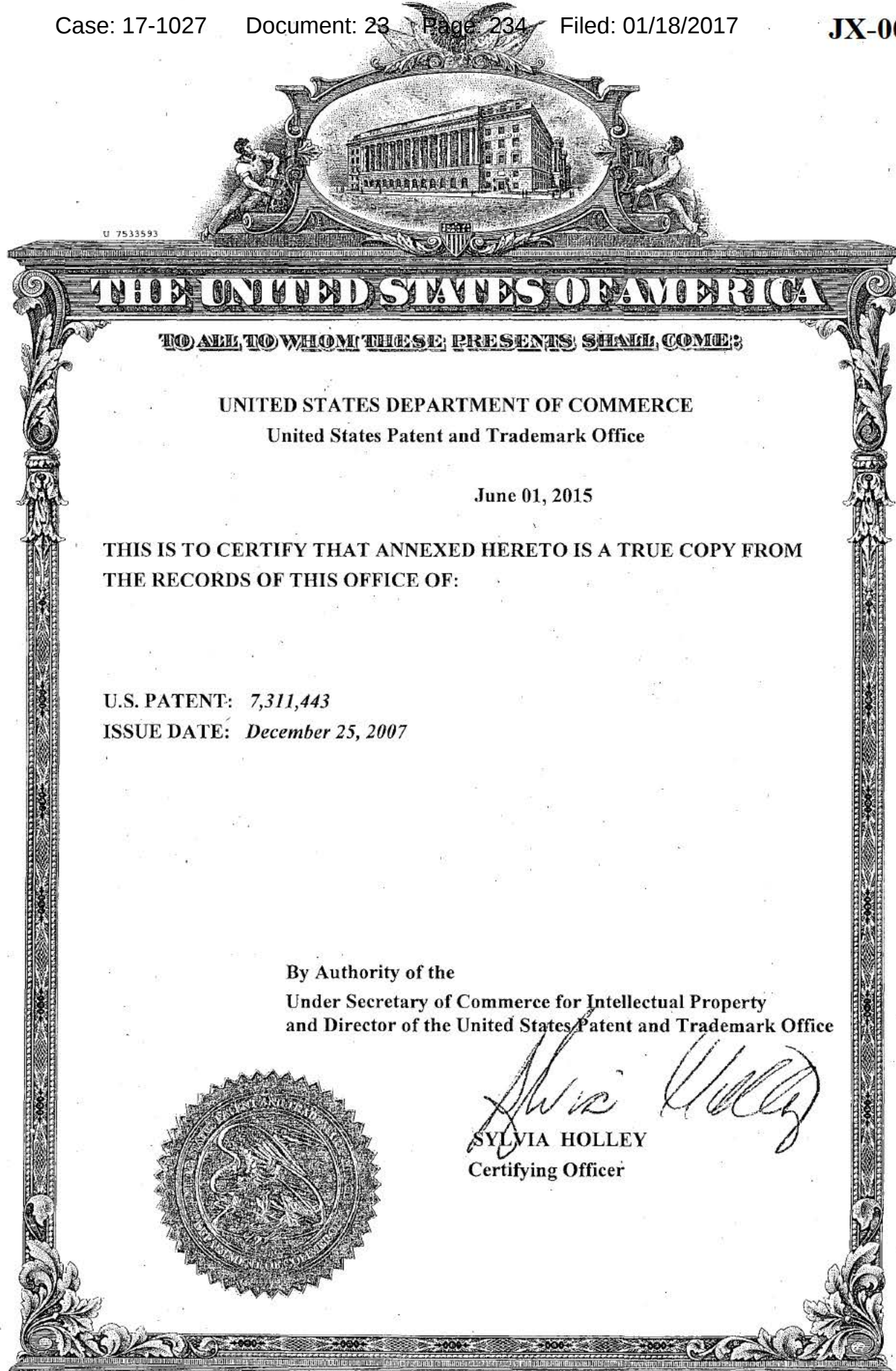
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U.S. PATENT: 7,311,443

ISSUE DATE: December 25, 2007

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(12) **United States Patent**  
**Buchman**

(10) **Patent No.:** **US 7,311,443 B2**  
(45) **Date of Patent:** **Dec. 25, 2007**

- (54) **RESEALABLE BAG HAVING A SLIDER DEVICE TO AN OPEN CLOSURE MECHANISM**
- (75) Inventor: **James E. Buchman**, Hortonville, WI (US)
- (73) Assignee: **Reynolds Consumer Products, Inc.**, Richmond, VA (US)
- (\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 93 days.

(21) Appl. No.: 11/248,726

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- (51) **Int. Cl.**  
**B65D 33/16** (2006.01)  
**A44B 1/14** (2006.01)

- (52) **U.S. Cl.** ..... 383/64; 24/399; 24/400

- (58) **Field of Classification Search** ..... 383/64; 24/399, 400  
See application file for complete search history.

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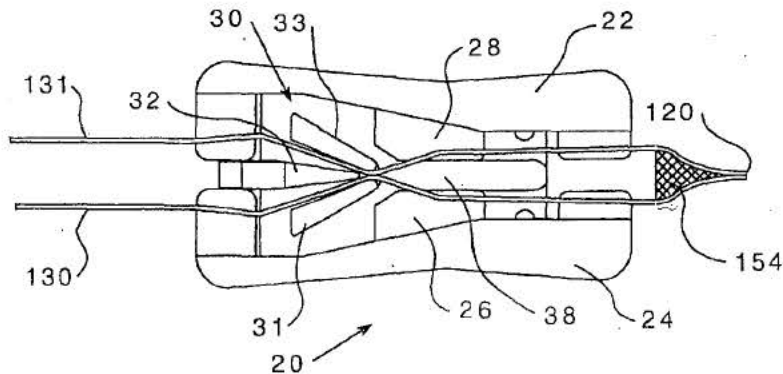
*Primary Examiner*—Jes F. Pascua

(74) *Attorney, Agent, or Firm*—Merchant & Gould P.C.

(57) **ABSTRACT**

This invention discloses a resealable bag. The resealable bag includes a first and second panel joined together to define an enclosed region, a closure mechanism having first and second closure profiles, a slider for selectively opening and closing the closure mechanism, and a spreader for separating the first and second closure profiles.

**6 Claims, 13 Drawing Sheets**



**US 7,311,443 B2**

Page 2

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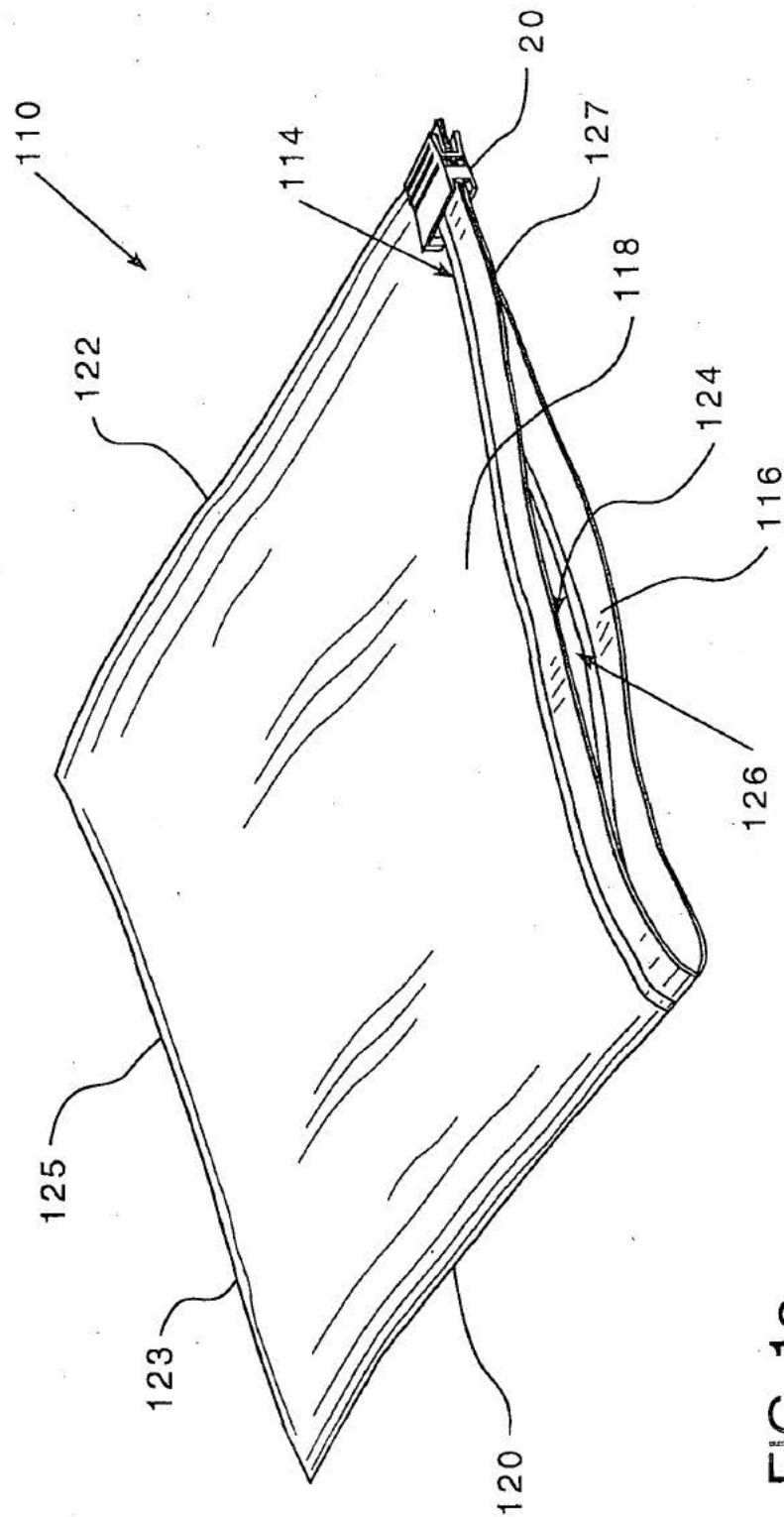


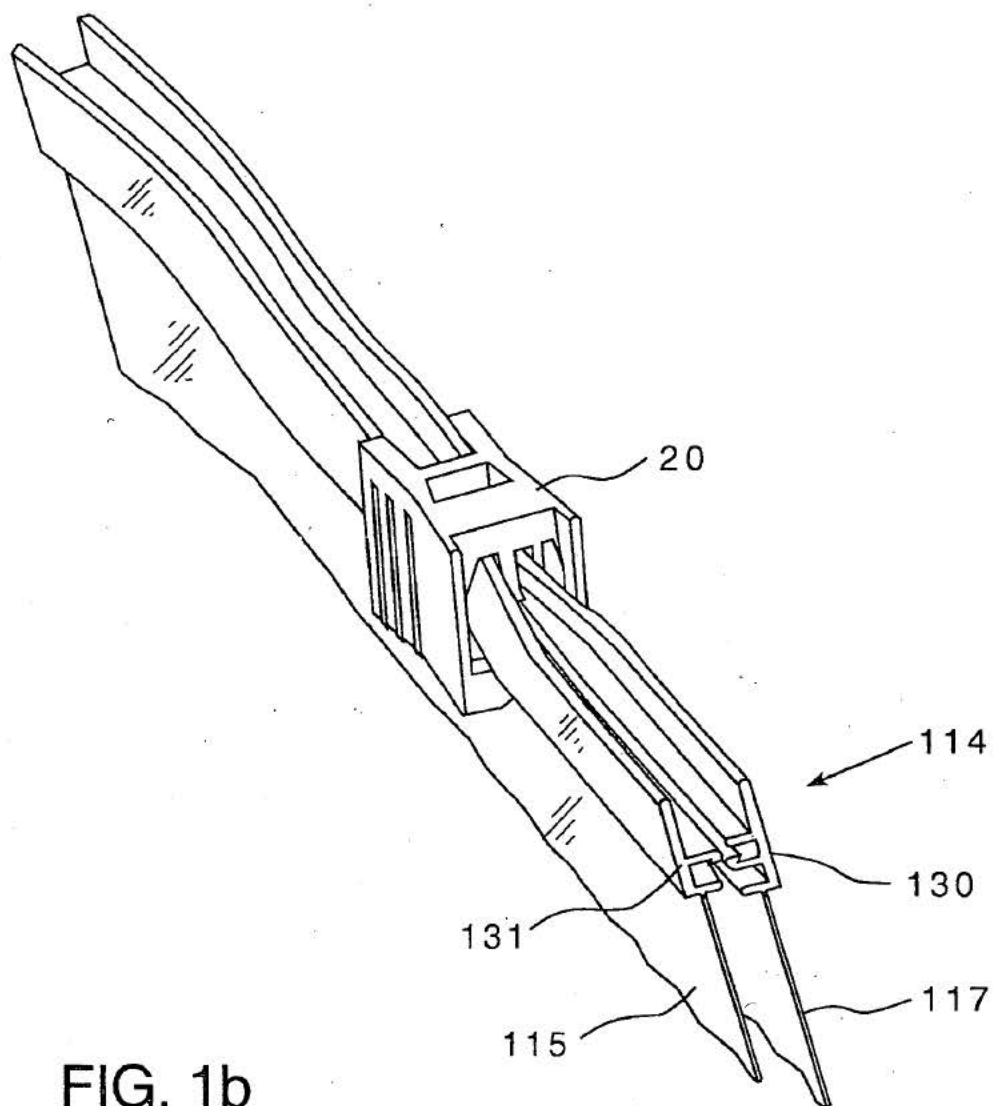
Fig. 1a

U.S. Patent

Dec. 25, 2007

Sheet 2 of 13

US 7,311,443 B2



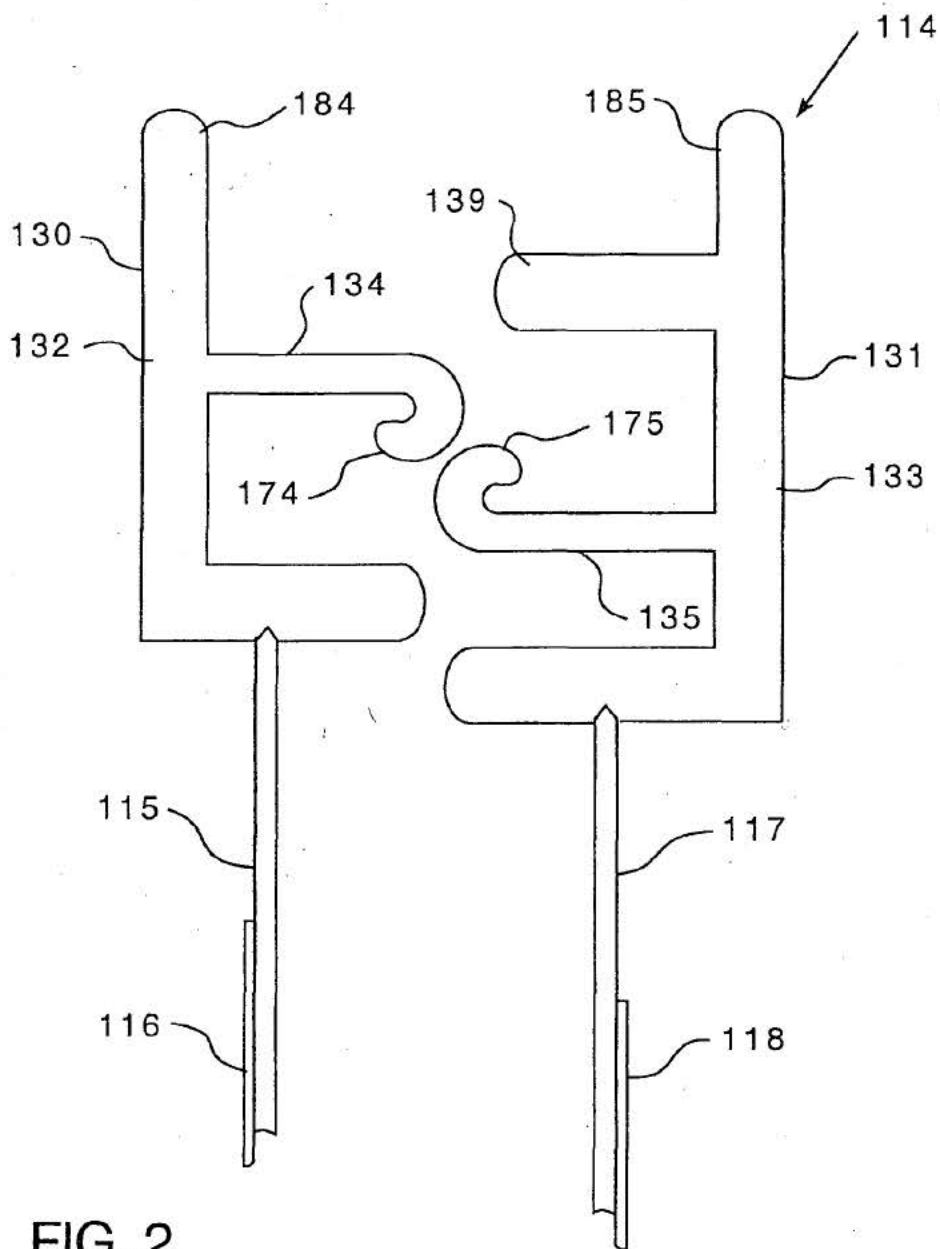


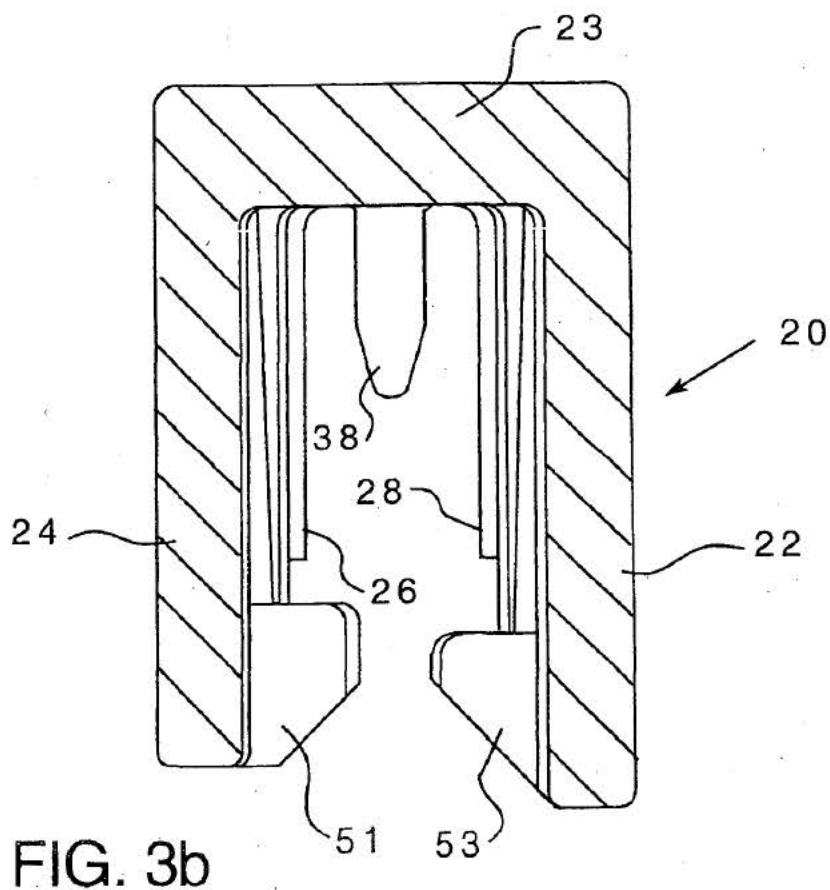
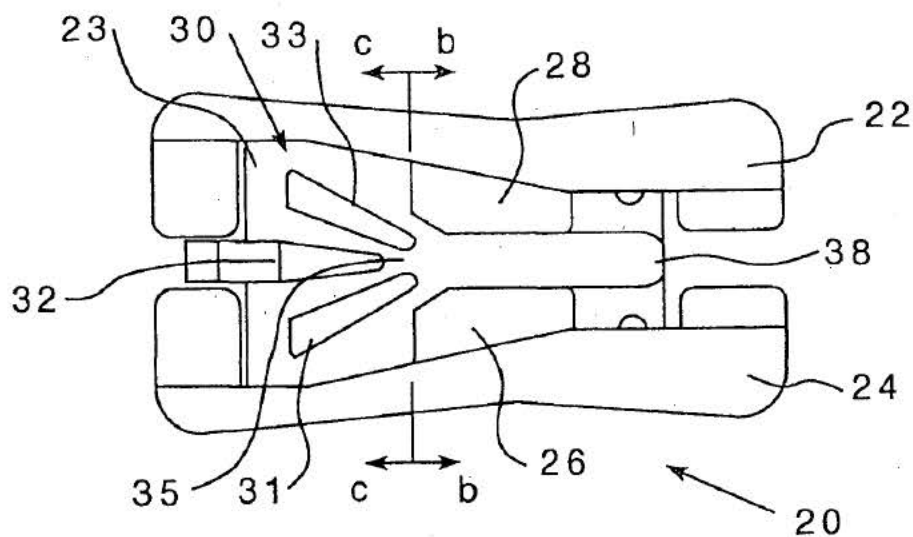
FIG. 2

U.S. Patent

Dec. 25, 2007

Sheet 4 of 13

US 7,311,443 B2



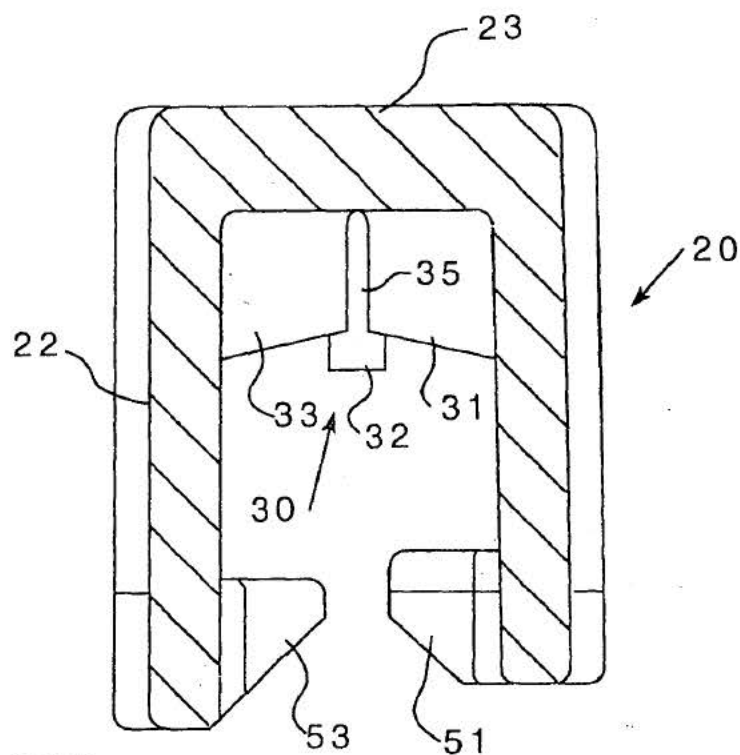


FIG. 3c

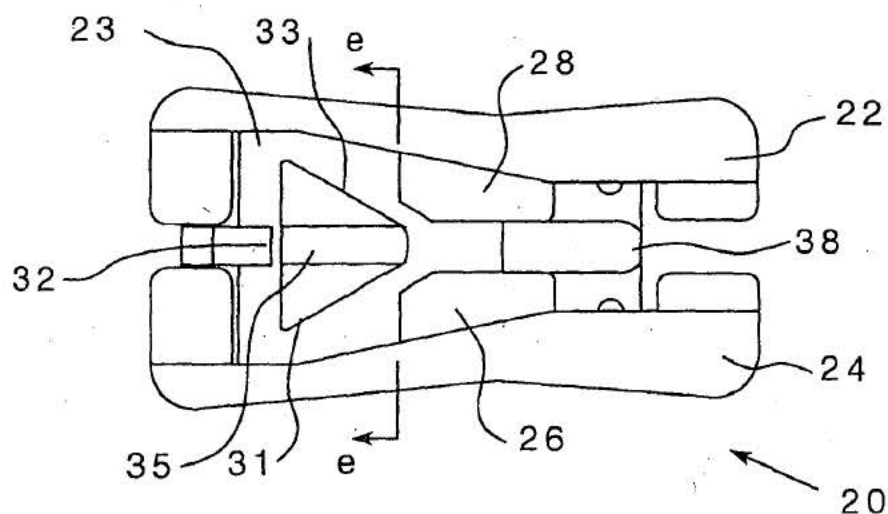


FIG. 3d

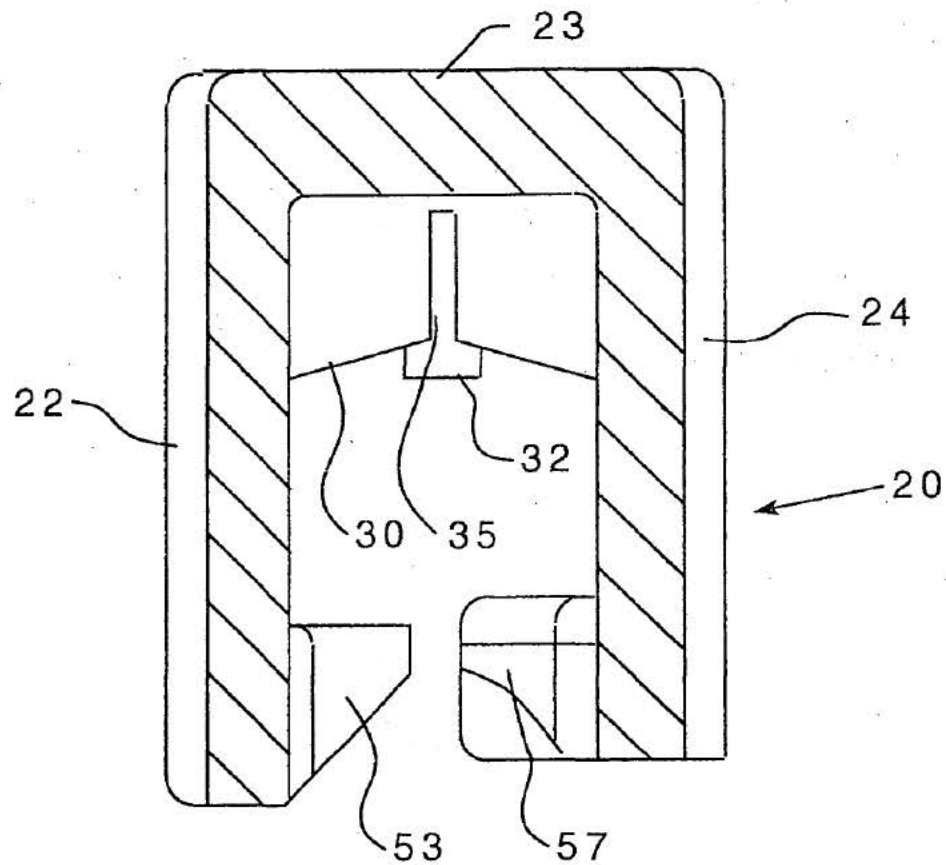
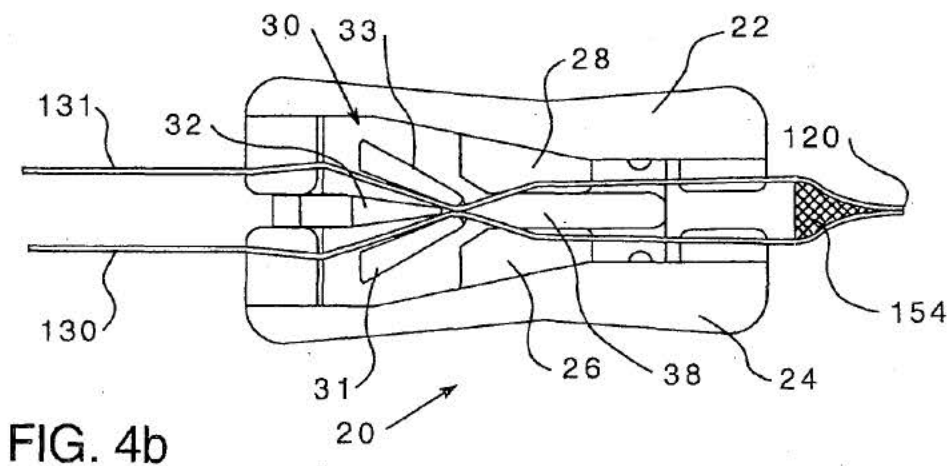
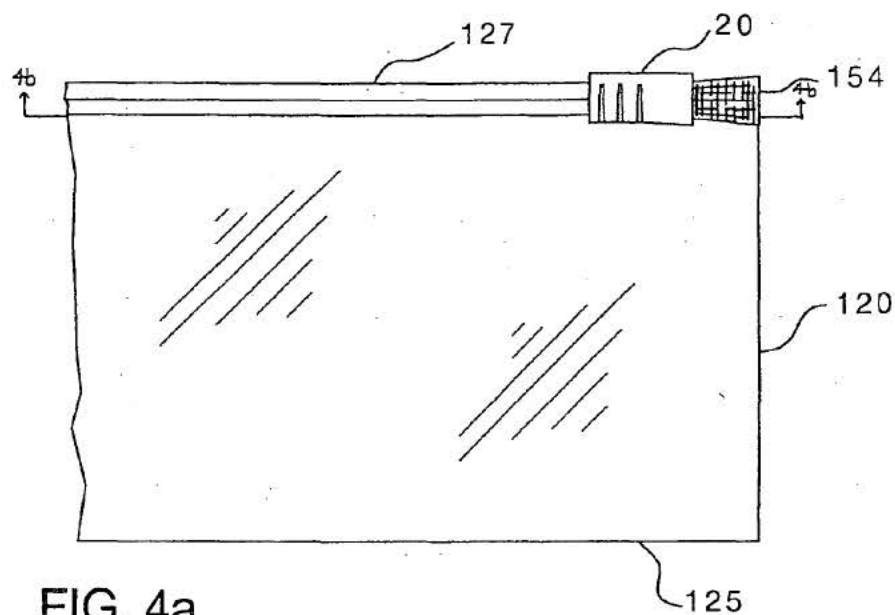


FIG. 3e







U.S. Patent

Dec. 25, 2007

Sheet 8 of 13

US 7,311,443 B2

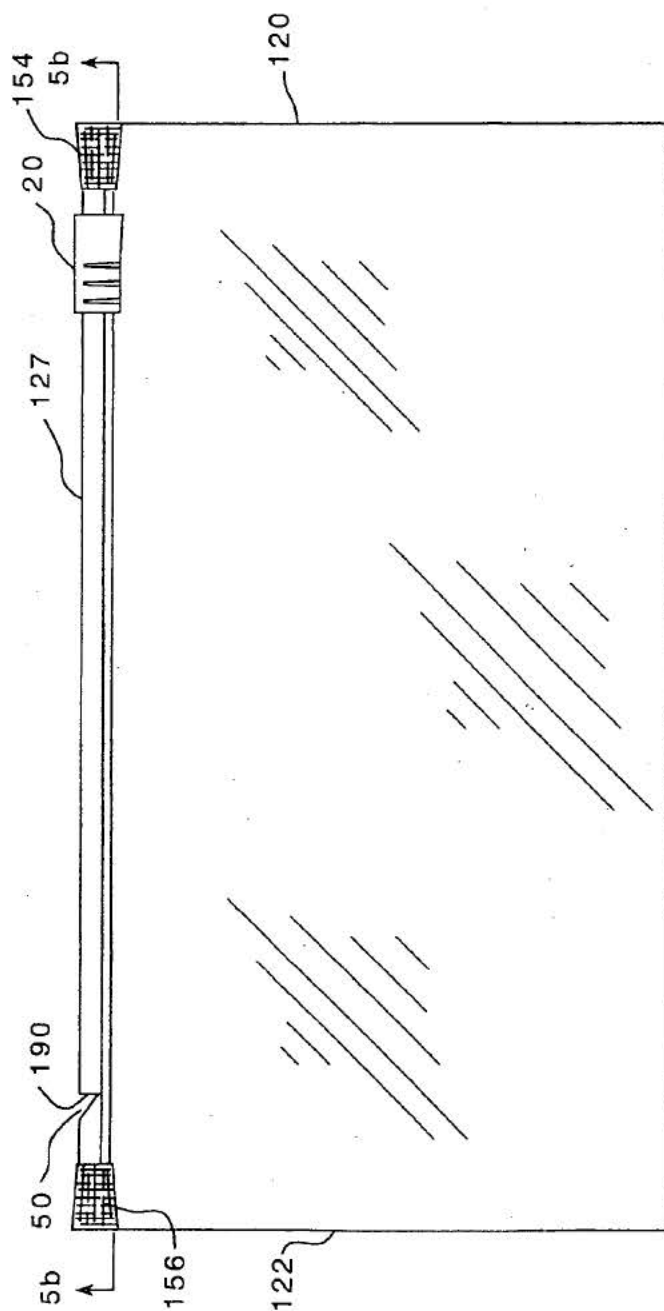


FIG. 5a

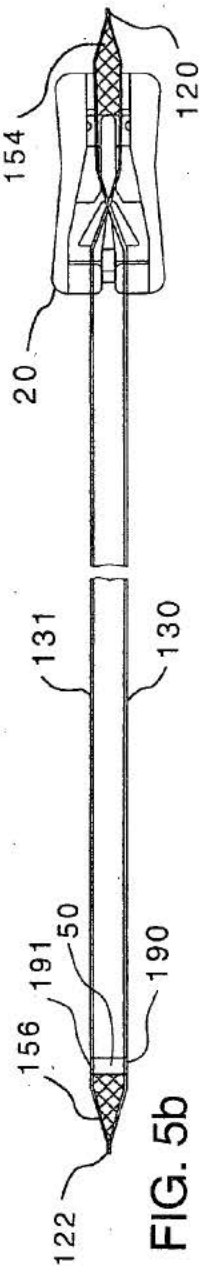
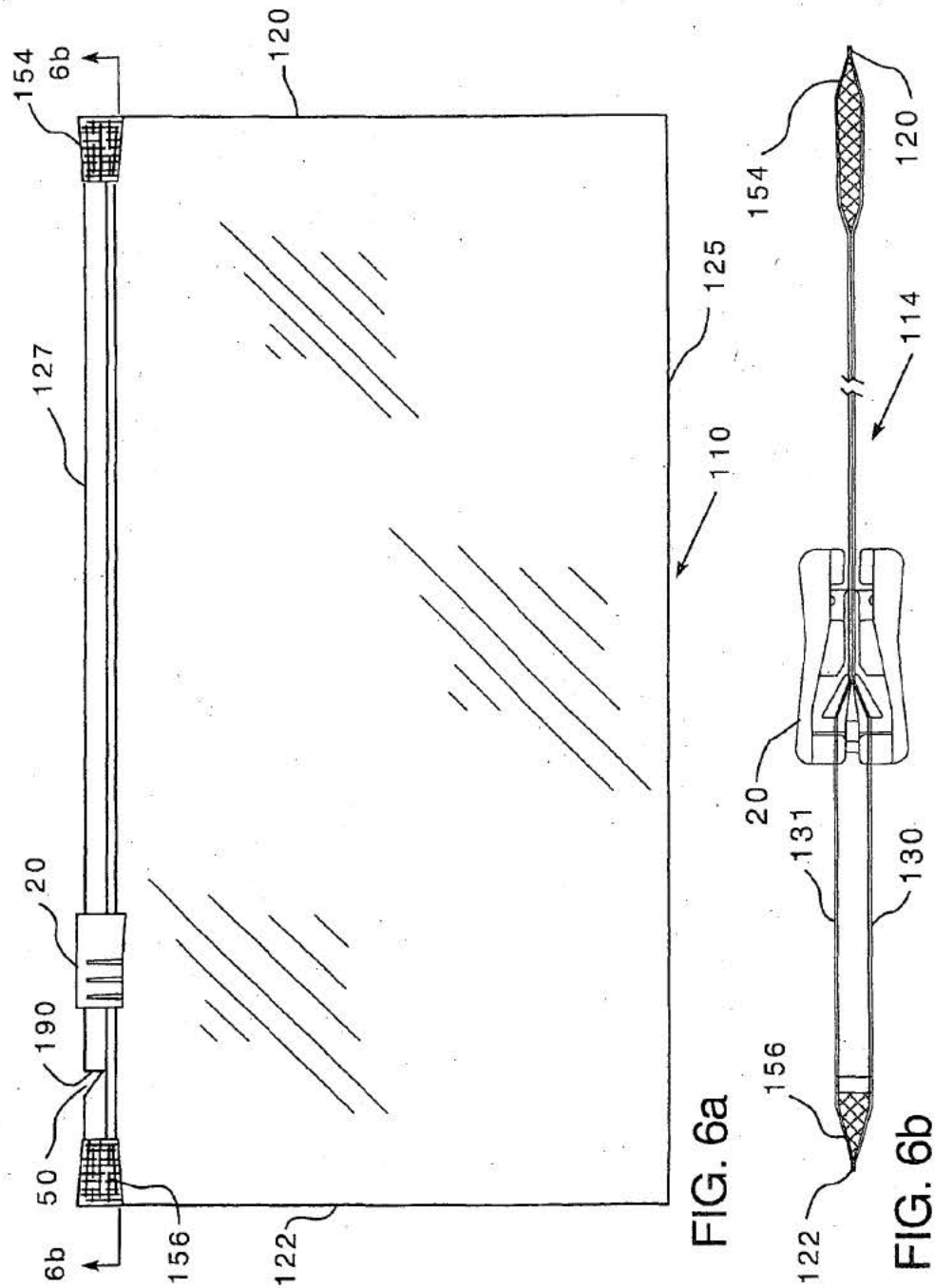


FIG. 5b



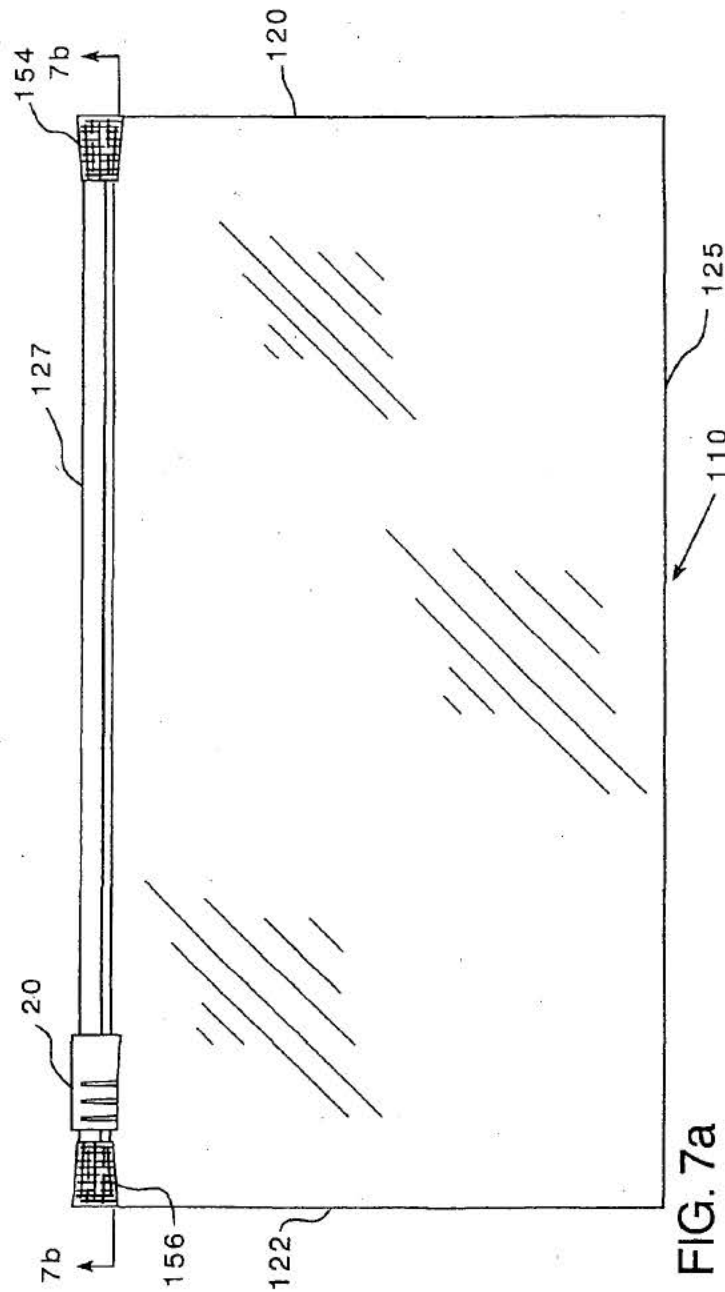


FIG. 7a

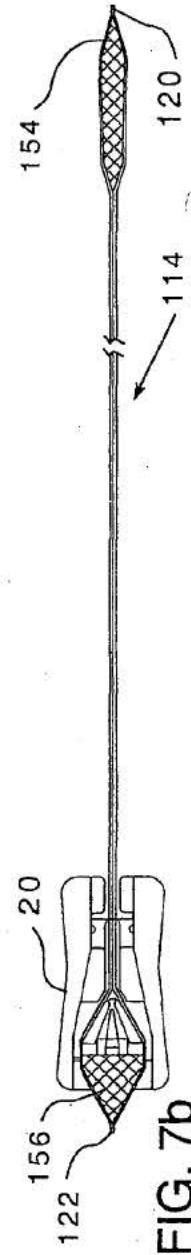


FIG. 7b

U.S. Patent

Dec. 25, 2007

Sheet 11 of 13

US 7,311,443 B2

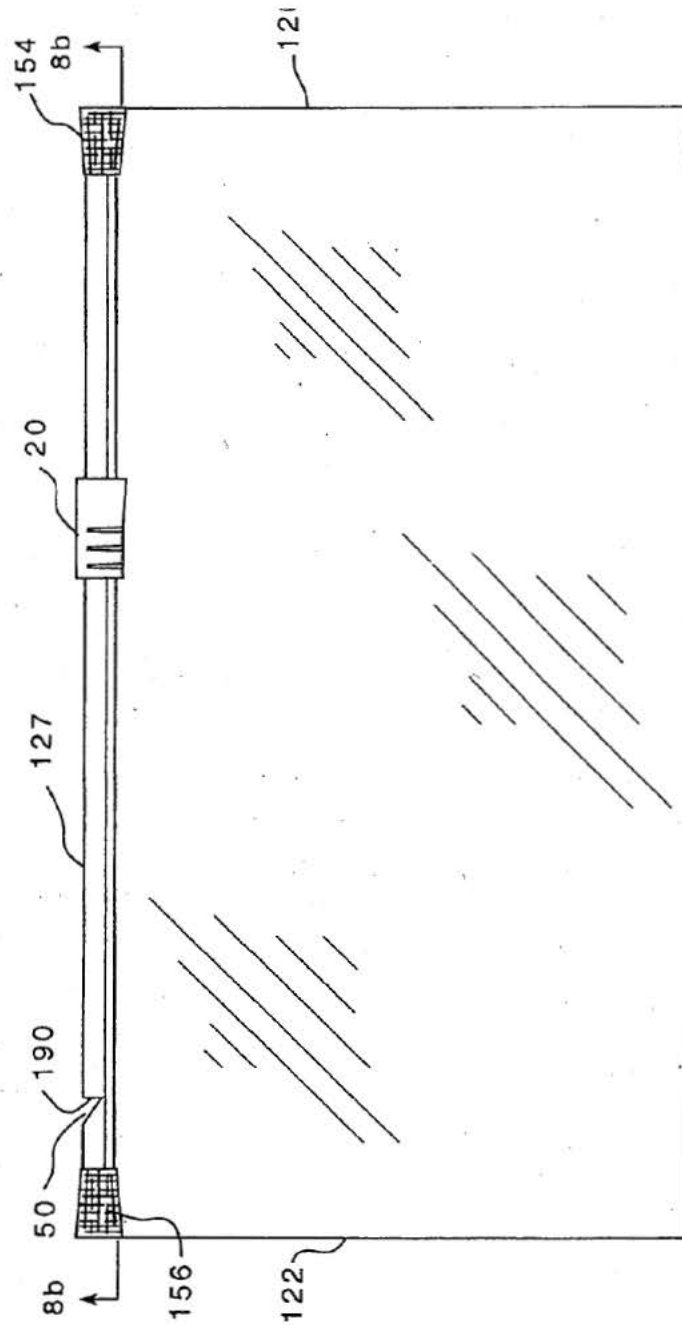


FIG. 8a

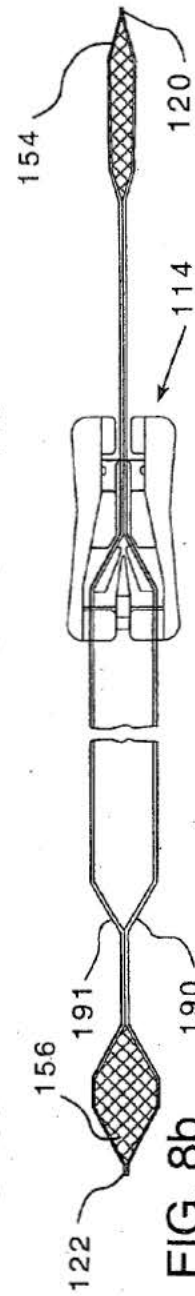


FIG. 8b

U.S. Patent

Dec. 25, 2007

Sheet 12 of 13

US 7,311,443 B2

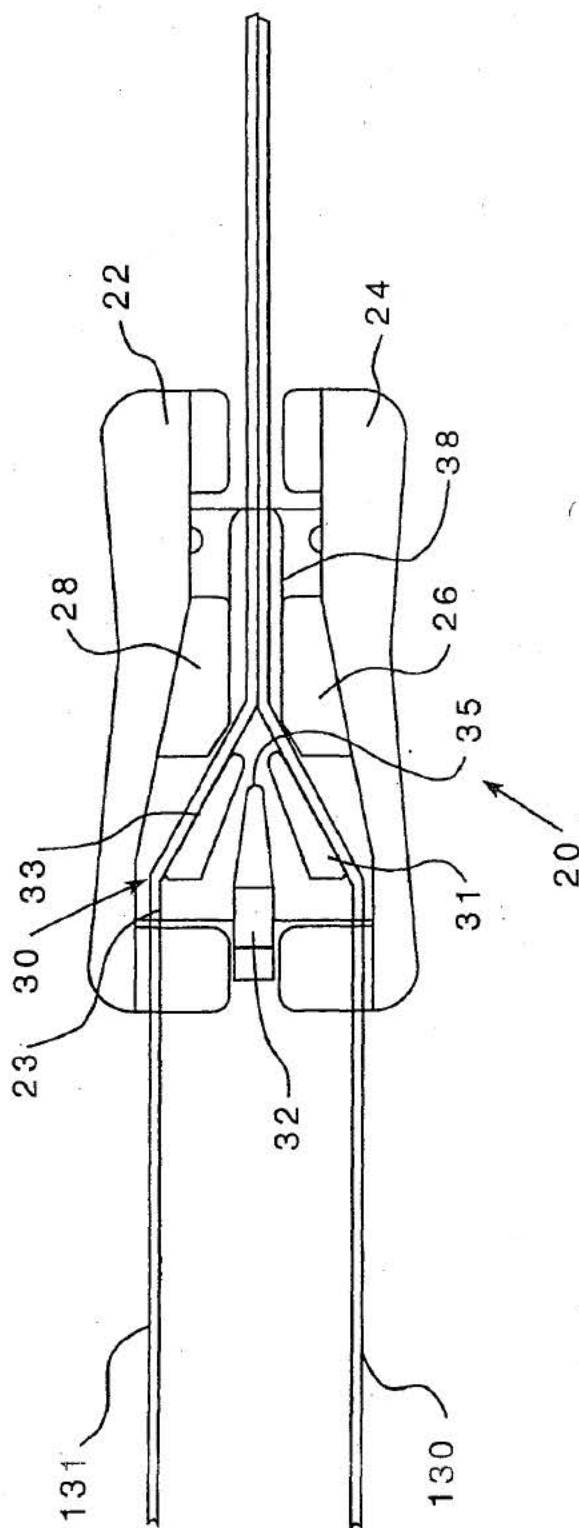


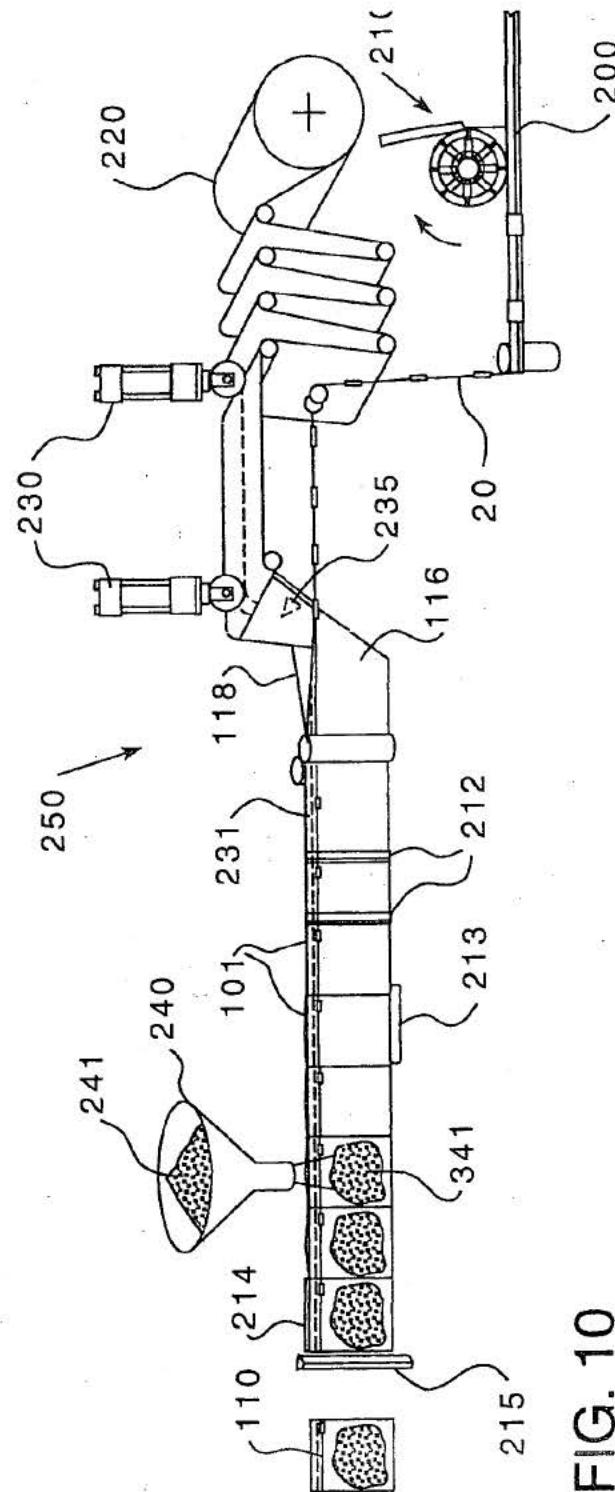
FIG. 9

U.S. Patent

Dec. 25, 2007

Sheet 13 of 13

US 7,311,443 B2



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US 7,311,443 B2

# RESEALABLE BAG HAVING A SLIDER DEVICE TO AN OPEN CLOSURE MECHANISM

## CROSS REFERENCE TO RELATED APPLICATIONS

This application is a Divisional of U.S. application Ser. No. 10/165,026, filed on Jun. 7, 2002, now U.S. Pat. No. 6,983,573, issued on Jun. 10, 2006, the disclosure of which is fully incorporated by reference herein.

## FIELD OF THE INVENTION

The present invention relates generally to a method of producing closure mechanisms for polymer packages, for example, plastic bags. In particular, the present invention relates to applying a slider device to the closure mechanism of a resealable bag.

## BACKGROUND OF THE INVENTION

Many packaging applications use resealable containers to store various types of articles and materials. These packages may be used to store and ship food products, non-food consumer goods, medical supplies, waste materials, and many other articles. Resealable packages are convenient in that they can be closed and resealed after the initial opening to preserve the enclosed contents. The need to locate a storage container for the unused portion of the products in the package is thus avoided. As such, providing products in resealable packages appreciably enhances the marketability of those products.

Resealable packages typically utilize a closure mechanism that is positioned along the mouth of the package. The closure mechanism often comprises profile elements or closure profiles that engage one another when pressed together and to disengage when pulled apart. Some packages also include a slider device that can be moved back and forth across the mouth of the package to open and close the closure mechanism. In many cases, the slider device includes some sort of plow or spreader device that serves to drive apart the closure profiles as it is moved along the closure mechanism, thereby opening the package. In the manufacturing process, the slider device is usually attached to the closure mechanism while the closure profiles are closed. The closure profiles are provided with a notch at one end. The slider device is placed on the closure profile at the notch, giving the spreader a starting point from which to penetrate the engaged closure profiles.

One reason for attaching the slider to the closure mechanism while the closure profiles are engaged is that it is often difficult to align an open set of closure profiles in the small and curved spaces between the walls of the slider device and the outside of the spreader. As a result of having to attach the slider to a closed package, it is necessary to move the slider device along the closure mechanism to open the package so the package may be filled with product. It is therefore desirable to provide a method of attaching a slider device to an open closure mechanism to eliminate the additional manufacturing step.

## SUMMARY OF THE INVENTION

In an embodiment of the present invention, a method of applying a slider to a closure mechanism for a resealable package is provided. The method comprises providing a

closure mechanism having first and second closure profiles, the first closure profile comprising a first base strip and a first upper flange. The first base strip has a first interlocking member extending therefrom. The second closure profile comprises a second base strip and a second upper flange, the second base strip having a second interlocking member extending therefrom. The first and second interlocking members are constructed and arranged to selectively interlock. The method further comprises providing a slider for selectively opening and closing the closure mechanism, the slider comprising a top wall and a pair of side walls. The top wall and side walls define a cavity sized to receive the first and second upper flanges. The slider also comprises a spreader for separating the first and second closure profiles, the spreader depending from the top wall of the slider. The spreader has a channel through which the first and second upper flanges may pass as the slider is moved along the closure mechanism. The method further comprises attaching the slider to the closure mechanism while the first and second closure profiles are at least partially disengaged, wherein the first and second upper flanges are both positioned in the channel through the spreader.

In another embodiment of the present invention, an alternate method of applying a slider to a closure mechanism for a resealable package is provided. The method comprises attaching the slider to the closure mechanism while the first and second closure profiles are at least partially disengaged, wherein the first and second upper flanges are both disposed in a first position that is different than a second position where the first and second upper flanges are positioned in subsequent closings in normal operation.

In another embodiment of the invention, a resealable bag is provided. The resealable bag comprises first and second panel sections joined together to define an enclosed region, first and second opposite side edges, a bottom and a mouth that provides access to the enclosed region. The bag further comprises a closure mechanism having first and second closure profiles. The first closure profile comprises a first base strip and a first upper flange, the first base strip having a first interlocking member extending therefrom. The second closure profile comprises a second base strip and a second upper flange, the second base strip having a second interlocking member extending therefrom. The first and second interlocking members are constructed and arranged to selectively interlock. The bag further comprises a slider for selectively opening and closing the closure mechanism, the slider comprising a top wall and a pair of side walls, the top wall and side walls defining a cavity sized to receive the first and second upper flanges. The slider further comprises a spreader for separating the first and second closure profiles, the spreader depending from the top wall. The spreader has a channel therethrough, and the first and second upper flanges are positioned within the channel.

In another embodiment of the invention, a closure mechanism for a resealable bag is provided. The closure mechanism has first and second closure profiles. The first closure profile comprises a first base strip and a first upper flange, the first base strip having a first interlocking member extending therefrom. The second closure profile comprises a second base strip and a second upper flange, the second base strip having a second interlocking member extending therefrom. The first and second interlocking members are constructed and arranged to selectively interlock. The bag further comprises a slider for selectively opening and closing the closure mechanism, the slider comprising a top wall and a pair of side walls, the top wall and side walls defining a cavity sized to receive the first and second upper flanges.



US 7,311,443 B2

3

The slider further comprises a spreader for separating the first and second closure profiles, the spreader depending from the top wall. The spreader has a channel therethrough, and the first and second upper flanges are positioned within the channel.

## BRIEF DESCRIPTION OF THE DRAWINGS

The various features and benefits of the present invention are apparent in light of the following detailed description and the accompanying drawings, in which:

FIG. 1a is a perspective view of a flexible, resealable package in accordance with an embodiment of the present invention.

FIG. 1b is a perspective view of a closure mechanism according to an example embodiment of the present invention.

FIG. 2 is an enlarged, fragmented, cross-sectional view of a closure mechanism according to an example embodiment of the present invention.

FIG. 3a is a bottom view of a slider in accordance with the present invention.

FIG. 3b is a cross-sectional view of the slider illustrated in FIG. 3a, taken along line b—b.

FIG. 3c is a cross-sectional view of the slider illustrated in FIG. 3a, taken along line c—c.

FIG. 3d is a bottom view of an alternate slider in accordance with the present invention.

FIG. 3e is a cross-sectional view of the slider illustrated in FIG. 3d, taken along line e—e.

FIG. 4a is an elevated, fragmented, perspective view of a recloseable package in accordance with an example embodiment of the present invention.

FIG. 4b is an enlarged, fragmented, cross-sectional view of the closure mechanism according to the example embodiment of the present invention illustrated in FIG. 4a taken along line 4b—4b.

FIG. 5a is an elevated, perspective view of a recloseable package in accordance with an example embodiment of the present invention, shown in the open position.

FIG. 5b is an enlarged, cross-sectional view of the closure mechanism illustrated in FIG. 5a, shown in the open position and taken along line 5b—5b.

FIG. 6a is an elevated, perspective view of a recloseable package in accordance with an example embodiment of the present invention, shown in a partially closed position.

FIG. 6b is an enlarged, cross-sectional view of the closure mechanism illustrated in FIG. 6a, shown in a partially closed position and taken along line 6b—6b.

FIG. 7a is an elevated, perspective view of a recloseable package in accordance with an example embodiment of the present invention, shown in the fully closed position.

FIG. 7b is an enlarged, cross-sectional view of the closure mechanism illustrated in FIG. 7a, shown in the fully closed position and taken along line 7b—7b.

FIG. 8a is an elevated, perspective view of a recloseable package in accordance with an example embodiment of the present invention, shown in a partially open position.

FIG. 8b is an enlarged, cross-sectional view of the closure mechanism illustrated in FIG. 8a, shown in a partially open position and taken along line 8b—8b.

FIG. 9 is an enlarged, fragmented, bottom view of the closure mechanism illustrated in FIG. 8a, shown in a partially open position.

FIG. 10 is a largely schematic view of a horizontal form, fill and seal process for use in accordance with the present invention.

4

## DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

The accompanying figure and the description that follows set forth this invention in its preferred embodiments. However, it is contemplated that persons generally familiar with resealable bags will be able to apply the novel characteristics of the structures and methods illustrated and described herein in other contexts by modification of certain details. Accordingly, the figures and description are not to be taken as restrictive on the scope of this invention, but are to be understood as broad and general teachings. When referring to any numerical range of values, such ranges are understood to include each and every number and/or fraction between the stated range minimum and maximum. Finally, for purposes of the description hereinafter, the terms "upper", "lower", "right", "left", "vertical", "horizontal", "top", "bottom", and derivatives thereof shall relate to the invention, as it is oriented in the drawing figures.

FIG. 1a illustrates an example packaging arrangement in the form of a resealable, flexible package 110, for example, a polymeric package such as a plastic bag, having a resealable closure mechanism 114, for example, interlocking profiled elements, constructed in accordance with the present invention. The flexible package 110 includes first and second opposed panel sections 116, 118, typically made from a flexible, polymeric, plastic film, such as a low density polyethylene.

With some manufacturing applications, the first and second panel sections 116, 118 are heat-sealed together along two side edges 120, 122 and meet at a fold line in order to form a three-edged containment section for a product within an interior 124 of the package 110. In the embodiment shown, the fold line comprises the bottom edge 125 of the package 110. Alternatively, two separate panel sections 116, 118 of plastic film may be used and heat-sealed together along the two side edges 120, 122 and at the bottom edge 125. Access is provided to the interior 124 of the package 110 through a mouth 126 at a top edge 127 of the package. In the particular embodiment illustrated in FIG. 1a, the mouth 126 extends the width of the package 110. The resealable closure mechanism 114 is illustrated at the mouth 126 of the flexible package 110. Preferably, the cross-section of the closure mechanism 114 is continuous along its length across the mouth 126 of the package 110. Alternatively, the closure mechanism 114 could be positioned on the package 110 at a location different from the mouth 126 of the package 110, depending on the application needs for the package 110.

The resealable closure mechanism 114 can be one of a variety of closure mechanisms. In the particular embodiment illustrated in FIGS. 1b and 2, the resealable closure mechanism 114 is shown in the specific form of a zipper-type closure mechanism. By the term "zipper-type closure mechanism," it is meant a structure having opposite interlocking or mating profiled elements that under the application of pressure will interlock and close the region between the profiles.

In the embodiment shown in FIG. 2, the resealable closure mechanism 114 comprises first and second closure profiles 130, 131. The first and second closure profiles 130, 131 are integrally formed with flanges 115, 117, respectively. The first and second panel sections 116, 118 may be attached to the flanges 115, 117 by any appropriate means known to those skilled in the art. For example, the first and second panel sections 116, 118 may be formed separately, then heat sealed to the flanges 115, 117.



US 7,311,443 B2

5

As shown in FIG. 2, the first closure profile 130 includes a first base strip 132 with a first interlocking member 134 extending therefrom. At a free end or tip of the first interlocking member 134 is a first hook or catch 174. Likewise, the second closure profile 131 includes a second base strip 133 and a second interlocking member 135 extending therefrom. At a free end or tip of the second interlocking member 135 is a second hook or catch 175. The second closure profile 131 also includes a guide member 139 extending from the second base strip 133.

The first and second closure profiles 130, 131 are designed and constructed to engage with one another to form the resealable closure mechanism 114. The first interlocking member 134 of the first closure profile 130 extends from the base strip 132 an engagement distance. The second interlocking member 135 of the second closure profile 131 also extends from the base strip 133 an engagement distance. These engagement distances that the first and second interlocking members 134, 135 extend are sufficient to allow mechanical engagement, or interlocking, between the first interlocking member 134 of the first closure profile 130 and the second interlocking member 135 of the second closure profile 131.

In particular, the first catch 174 of the first interlocking member 134 hooks or engages with the second catch 175 of the second interlocking member 135. Furthermore, the closure profiles 130, 131 are sealed together at their ends, such as first and second regions 156, 154 of FIGS. 6a-b to further aid in aligning the closure profiles 130, 131 for interlocking. Pressure is applied to the closure profiles 130, 131 as they engage to form the openable sealed closure mechanism 114. Pulling the first closure profile 130 and the second closure profile 131 away from each other causes the two closure profiles 130, 131 to disengage.

The first and second closure profiles 130, 131 also include first and second upper flanges 184, 185, respectively. The upper flanges 184, 185 are formed integrally with first and second base strips 132, 133, respectively, and extend from the base strips toward the slider 20. In operation, the slider 20 rests on and slides along the upper flanges 184, 185.

FIGS. 3a-3c illustrate an example slider 20 in accordance with the present invention. The slider 20 includes a top wall 23 and two side walls 22, 24 depending from the top wall 23. The top wall 23 and the two side walls 22, 24 define a cavity in which the closure profiles 130, 131 (as shown in FIG. 1b) are disposed when the slider is attached to the package 110. Further, the slider 20 includes two ribs 26, 28 that extend towards each other from the two side walls 24, 22, respectively. The two ribs function to force the two closure profiles 130, 131 together as the slider 20 is moved in a first direction along the closure mechanism 114. The ribs 26, 28 are sized to allow the closure profiles 130, 131 enough room to pass through the cavity, yet still force the closure profiles 130, 131 to engage. To the same end, the two walls 22, 24 are tapered along their respective lengths to assist in forcing the closure profiles 130, 131 together as the slider 20 is moved in the first direction along the closure mechanism 114.

The slider 20 also includes a spreader 30 that functions to push apart the closure profiles 130, 131 as the slider is moved in a direction opposite the first direction along the closure mechanism 114. In the embodiment illustrated in FIGS. 3a-3c, the spreader 30 comprises two flanges 31, 33, both depending from the top wall 23 of the slider 20. The two flanges 31, 33 are sized and arranged such that when the slider 20 is moved in the direction opposite the first direction along the closure mechanism 114, the upper flanges 184, 185 are forced to pass around the spreader 30. In this manner, the

6

interlocking closure members 134, 135 are forced to disengage, thereby opening closure mechanism 114.

The flanges 31, 33 are also arranged to define a channel 35 through the spreader 30. In other words, the channel 35 extends between the flanges 31, 33. In the embodiment shown, the flanges 31, 33 are arranged to generally form a V-shape. However, the flanges 31, 33 do not contact each other at the point of the 'V.' Instead, the flanges are positioned and oriented to allow the upper flanges 184, 185 to pass through the point of the 'V,' and thus, between the flanges 31, 33. Alternatively, the spreader 30 may be formed as a unitary device, with channel 35 being formed there-through. In this embodiment, illustrated in FIGS. 3d and e, the spreader 30 is triangular in shape.

The slider 20 also includes a first finger 38 that extends from the top wall 23 of the slider 20. In operation, the first finger 38 will abut or engage the seal region 154 (as shown in FIG. 5a) to inhibit the slider 20 from sliding off the resealable package 110, as the slider 20 is moved in a direction effective to open the closure mechanism 114. The slider 20 further includes a second finger 32 that extends from the top wall 23 of the slider 20. The second finger 32 is located on the opposite end of the slider 20 from the first finger 38. In operation, the second finger 32 will abut or engage the seal region 156 (as shown in FIG. 5a) to inhibit the slider 20 from sliding off the resealable package 110 as the slider 20 is moved in a direction effective to close the closure mechanism 114.

Preferably, the slider 20 further includes two hook ends 51, 53 at the ends of side walls 24, 22 respectively. The hook ends 51, 53 are designed and sized to slideably engage with the bottoms of first and second closure profiles 131, 130. The hook ends 51, 53 allow the slider 20 to move along the closure mechanism 114, while preventing the slider 20 from falling or being easily pulled off of the closure mechanism 114.

FIGS. 4a-b illustrates the location of the upper flanges 184, 185 when the slider 20 is attached to the closure mechanism 114 for the first time in accordance with an embodiment of the present invention. The slider 20 is attached to the closure mechanism 114 while the closure mechanism 114 is at least partially open. Preferably, the slider 20 is attached to the closure mechanism 114 while the closure mechanism 114 is fully open. The walls 22, 24 of the slider 20 are spread apart and the slider 20 is set down on the upper flanges 184, 185. As can be seen, the upper flanges 184, 185 are positioned between the ribs 26, 28 and are positioned in channel 35 which extends between the flanges 31, 33. In older systems, the upper flanges 184, 185 would have to be placed between the ribs 26, 28 and around the outside of the spreader 30. As can be appreciated, the severe angle change necessary to place the upper flanges 184, 185 in such a fashion poses manufacturing challenges. The present invention, by providing the channel 35 through the spreader 30, solves this problem. As the angle change necessary to place the upper flanges 184, 185 between the ribs 26, 28 and in the channel 35 in this embodiment, aligning the upper flanges 184, 185 is simpler, leading to lower manufacturing costs.

As shown in FIGS. 5a-b, the slider 20 is preferably attached at the end of the closure mechanism 114 that the slider 20 is positioned during normal operation when the closure mechanism 114 is fully open. The slider 20 is attached during the manufacturing of closure mechanism 114, which is illustrated in FIG. 10.

FIG. 10 illustrates a horizontal form, fill and seal ("HFFS") process for manufacturing a closure mechanism



US 7,311,443 B2

7

114 and a resealable bag 110 in accordance with the present invention. The first and second closure profiles 130, 131 (not shown individually in FIG. 10) are provided in an engaged configuration as a continuous length of closure profile material 200. Preferably, the closure profile material 200 is provided on a roll (not shown). The closure profile material 200 is then unwound and fed to the HFFS process.

The first and second profiles 130, 131 are disengaged prior to the application of the slider 20. The slider 20 is attached to the closure profile material 200 by a slider application station 210. The slider application station 210 applies the slider 20 to the closure profile material 200 through the use of any appropriate means known in the art, for example, the apparatuses as described in U.S. Pat. Nos. 6,199,256 and 6,293,896, the entire contents of which are hereby incorporated by reference. While the apparatus disclosed in that application is suitable, it is noted that in the present invention, the upper flanges 184, 185 are positioned between the ribs 26, 28 and between the flanges 31, 33, as described above, when it is applied by the slider application station 210.

Once the slider 20 is applied to the closure profile material 200, the closure profile material 200 passes to the HFFS machine 250. The material that comprises the side panels 116, 118 of resealable package 110 (as shown in FIG. 1) is provided on a roll 220. The material is unwound and passes to perforators 230 that score the material to facilitate later removal of a header section 101 (as is described below). The material then passes over a folding board 245 (as is known in the art) to form the two side panels 116, 118. The folding board 245 includes a slitter that separates the material into side panels 116, 118. The closure profile material 200 is positioned between the side panels 116, 118. The side panels 116, 118 are then heat sealed to the flanges 115, 117 (not shown in FIG. 10). The flanges 115, 117 are sealed to the side panels 116, 118 a predetermined distance below the perforations 231 so as to produce a header section 101 above the closure mechanism 114. A suitable header section 101 construction is disclosed in U.S. Patent Application Ser. No. 60/222,132, filed Jul. 31, 2000, the entire contents of which are hereby incorporated by reference.

The continuous line of packages moves to a pair of sealing bars 212 that seal the side panels 116, 118 together to form the sides 120, 122 of the resealable package 110 (as shown in FIG. 1b), then to a sealing bar 213 that seals the side panels 116, 118 together to form the bottom edge 125. The line of packages is moved beneath hopper or product-dispensing apparatus 240 that contains a product 241. The hopper 240 dispenses a predetermined amount 341 of the product 241 into each resealable package 110. Once the product 241 has been dispensed to package 110, a seal bar 214 seals the top of header section 101. The continuous line of packages is then divided into individual resealable packages 110 by a cut-off blade 215.

When a consumer purchases the package 110 containing the product 241, the consumer removes the header section 101 at perforations 231. As a result, the consumer has access to the product 241 through the open closure mechanism 114. After the package 110 is open and a portion of the product 241 has been removed, it is desirable to close the closure mechanism 114, as shown in FIGS. 6a-b. The slider is moved along the closure mechanism 114 in the direction opposite the direction it was moved in order to open the closure mechanism 114. As the slider 20 moves along the closure mechanism 114, the closure profiles 130, 131 are forced together and the interlocking closure members 134,

8

135 are forced to engage. The slider 20 is moved until it comes to rest in the notch 50, as illustrated in FIGS. 7a-b. As the slider 20 comes to rest in the notch 50, the ends 190, 191 of the upper flanges 184, 185 that form a side of the notch 50 pass fully through the channel 35 of the spreader 30. In this way, the closure profiles 130, 131 are engaged along their entire lengths.

When it is desirable to open the closure mechanism 114 after the slider 20 has come to rest in the notch 50, the slider 20 is moved in the direction it was moved when it was first attached to the closure mechanism 114, as shown in FIGS. 8a-b. Due to the triangular shape of the spreader 30, when the spreader 30 is moved against the ends 190, 191 of the closure profiles 130, 131, the upper flanges 184, 185 are directed around the outside of the spreader 30, along the flanges 31, 33, as shown in FIG. 9. The upper flanges 184, 185 are directed around the outside of the spreader 30 in all subsequent openings and closings of the package.

Having described the presently preferred embodiments, it is to be understood that the invention may be otherwise embodied within the scope of the appended claims.

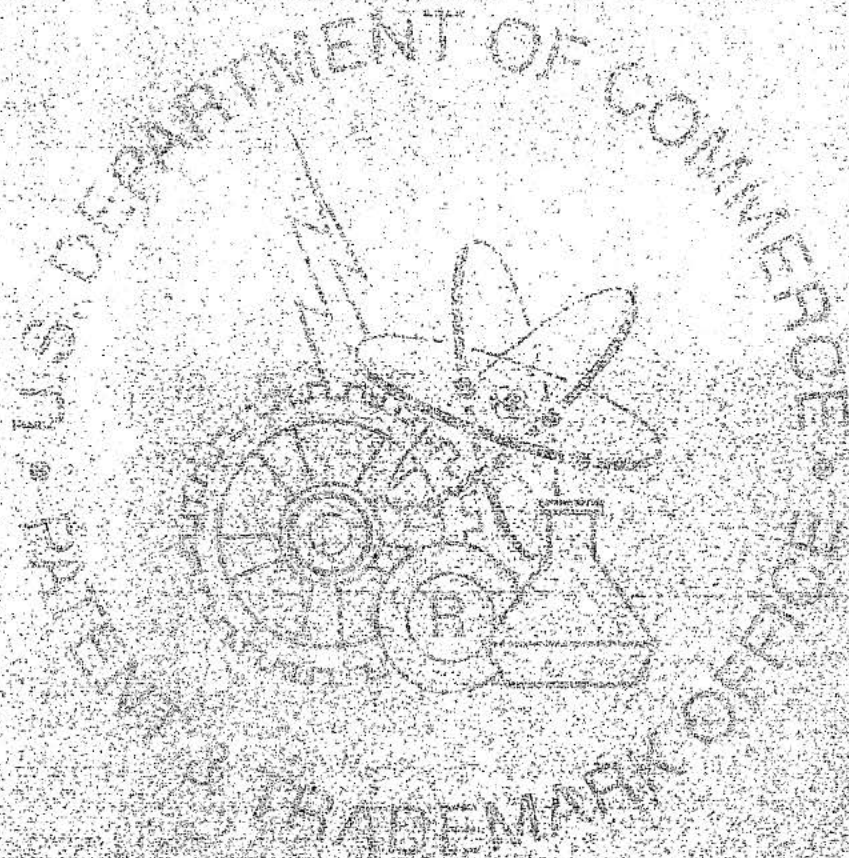
What is claimed is:

1. A resealable bag comprising:

- (a) first and second panel sections joined together to define an enclosed region, first and second opposite side edges, a bottom and a mouth that provides access to the enclosed region;
- (b) a closure mechanism comprising first and second closure profiles;
  - (i) the first closure profile comprising a first base strip and a first upper flange, the first base strip having a first interlocking member extending therefrom;
  - (ii) the second closure profile comprising a second base strip and a second upper flange, the second base strip having a second interlocking member extending therefrom;
  - (iii) the first and second interlocking members constructed and arranged to selectively interlock;
- (c) a slider device for selectively opening and closing the closure mechanism, the slider device comprising:
  - (i) a top wall and a pair of side walls, the top wall and side walls defining a cavity sized to receive the first and second upper flanges;
  - (ii) a spreader for separating the first and second closure profiles, the spreader depending from the top wall, the spreader having a channel therethrough; and
  - (d) wherein the first and second upper flanges are positioned in the channel through the spreader.
2. The resealable bag of claim 1, wherein the first and second upper flanges each define a notch at one end of the closure mechanism.
3. The resealable bag of claim 1, wherein the spreader comprises two flanges depending from the top wall of the slider device, the two flanges oriented generally in a V-shape.
4. The resealable bag of claim 3, wherein the two flanges are not in direct contact with each other.
5. The resealable bag of claim 1, wherein the spreader comprises a single flange depending from the top wall of the slider device.
6. The resealable bag of claim 5, wherein the spreader is triangular in shape.

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